

THE AMERICAN FARMER:

DEVOTED TO
AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

[FIFTH SERIES.]

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." Virg.

Vol. I.

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No. 9.

MARCH.

"Now winter's storms which chilled the sky,
Before the tepid breezes fly;
Smiling advance the rosy hours
Strewing around their purple flowers;
Brown earth is crowned with herbage green
And decked with bloom each twig is seen."

"The maid is not dead, but sleepeth," said the Lord of life, and at his word she who, to human view, lay cold in death, received new life. It was called a miracle. Yet from the beginning, when the morning stars sang together over the new creation, year by year, the wonder has been repeated, and we call it "the course of Nature." The earth lies cold and stiff, her life currents cease to flow, her beautiful raiment is laid aside, her garlands of leaf and flower are withered. But the same Lord, who took the gentle maiden by the hand and led her back to life, breathes now upon the earth, and behold the miracle! Her winding sheet falls away, her life streams flow again. She arrays herself in a mantle of green, and decks herself anew, with leaf and blossom, with lily and rose.

With the new season the husbandman goes forth with fresh spirit for his labours. He has a ministration in this grand work of renewal, this bringing of life from death, that is going on all around him. Let him realise his noble office and devote himself, not grudgingly as an hireling, but cheerfully as a son, to the duty that is set before him.

WORK ON THE FARM.

TOBACCO CROP.

The care required this month for the Tobacco crop has reference both to the past and coming season. The bulks of stripped Tobacco which have not been hung up for drying, or removed,

will require careful looking after lest they heat and be damaged. Examine frequently, and whenever you find it softening, or getting into high condition as it is termed, it should be shaken out and laid in another bulk, or hung on sticks in the house until thoroughly dried; after which the first soft spell should be availed of, to pack it in large bulks, in readiness for the hoghead. Tobacco beds, if not already sown, should be done, of course, at the earliest practicable time; in our January number are hints on this subject.

Break the sod of your Tobacco field as early as possible. The more thoroughly the sod is decomposed at planting time, the better is the chance of an early start and rapid growth; points which affect materially the quality of the crop. It is by no means necessary or proper that the manure should be hauled upon the ground before ploughing; but mix it with the surface soil at the second ploughing, which should be so shallow as not to disturb the sod.

CORN CROP.

Get an early start in the preparation for this crop and provide such manures as you may need. We advise the application of fertilizers for this crop at the earliest practicable period after the first ploughing, to get the full benefit of the spring rains upon them. Put all manures, long or short, *on the surface after ploughing*, spreading from the cart.

OATS.

This crop is always better for being seeded early. Ten days of time in seeding, is equal often to a good manuring. If clover seed is to be sown with the crop, there is the more necessity for seeding early.

CARE OF STOCK.

At no season is there more necessity for careful attention to the health of Stock of all sorts, than during this month. Milch cows, ewes and

sows need especially to be looked after, and prudently and judiciously fed, as the time of having their young approaches.

MANURES.

Provide promptly such fertilizers as are wanted for spring crops. If composts are to be prepared for spring or summer use, the sooner the materials are thrown together the better.

FENCES.

There should be no delay in having all the fences of the farm put in thorough repair and gates got in order.

GRASS SEEDS.

The sowing of grass seeds should be completed this month. Run a good harrow over the wheat when the ground is in proper condition, neither too wet nor baked with drying winds. When the seeds are sown, follow with roller. Do not sow less than half a peck of clover seed to the acre. Six quarts will not be too much if you wish to insure a good set. Sow a bushel of orchard grass, if sown with clover—two bushels if alone. A great deal of costly grass seed is wasted upon lands not in proper condition.—Thorough preparation by previous cultivation and by ample manuring are requisite for their successful culture. The seeds once well set upon the ground, a great deal can be done by top-dressing.

ROOT CROPS.

In the allotment of ground for crops do not fail to provide for a crop of roots in some proportion to the needs of your stock during the winter and early spring. The sugar beet or mangold wurtzel and ruta бага are the most productive and most easily grown. They need deep and thorough preparation of the ground and abundant manuring, but will yield very abundant crops.

PLOUGHING.

The success of the whole year's operations will depend very much upon the manner in which the first ploughing is done. It is hardly necessary to remind you of the very great importance of having a good team to do the work, a good plough to work with, and of closely supervising the whole operation. Ordinarily, this ploughing should not be less than eight inches in depth; and the sod should be so completely inverted as to insure the destruction of grass and the decomposition of the turf.

PLASTER.

Get your supply of Plaster early, and be ready to sow on last spring's clover as soon as the young leaves begin to spring freely. Dress both last and this year's crop liberally.

WORK IN THE GARDEN.

MARCH.

In the report of a discussion we find in one of our Northern exchanges, one of the speakers defines the Garden as "a place back of the house where dish water is thrown; where we have a few hills of potatoes and several hundred—pig weeds." We fear the experience of the speaker has been somewhat that of Mr. Henry Ward Beecher, as exhibited in his book. We wish some of our Maryland or Virginia or North Carolina ladies would define for us a Garden as shown under their own taste and skill. If there should be one among our subscribers who can take the reproach of such a description, we trust they will begin now to reform, in this very important part of their domestic management.

POTATOES.

For early use, should be planted immediately. Cover the sets with good compost in the drills. A very successful method of getting an early crop is to plant closely and cover entirely over with straw eight or ten inches deep.

PEAS.

Plant peas without delay. See the advice of our experienced North Carolina correspondent, signed "Home Comforts."

CABBAGE PLANTS.

Sow seeds of early and late sorts in open ground. For late crop it is the advice of an experienced cultivator of this crop for market, to sow this month, very thickly, on well manured ground. Early Yorks, planted in fall, should now have the ridges levelled down.

BEANS.

Plant String Beans late this month. Rather run some risk of having them nipped by frost than have a late crop.

LETTUCE—RADISH.

Sow seeds of these in open border.

CARROTS, BEETS, PARSNIPS.

Sow seeds of these in well-manured drills.

TOMATO AND EGG PLANTS.

Sow seeds of these in border for late crops.

CELERY.

Sow Celery seed for early crop.

SEEDS.

Set out Cabbages, Beets, Turnips, &c. for seed.

ASPARAGUS.

Asparagus beds, if not put in order in the fall, should be well dug and manured at once, giving at the same time a dressing of salt and ashes. If you mean to make a new bed, give the ground a

very thorough digging, full two spits deep, and manure heavily. Seed for a new stock of plants may be now sown in a rich bed.

ONIONS.

Plant out sets for early crop. For main crop sow seeds early, manure largely with fine well rotted manure, prepare ground thoroughly and keep strictly clean of grass and weeds.

RHUBARB OR PIE PLANT.

Set out plants of this and sow seeds.

GARDEN HERBS.

Set out plants and sow seeds.

COMPOSTS.

Continue to prepare, under cover, or well heap- ed out of doors, rich composts of stable and other strong manures, with leaf mould from the woods. Nothing is equal to good compost for all garden crops.

Culture of the Garden Pea.

The proper culture of this vegetable is very simple, but is practised by but few persons. The word *marrowfat* is suggestive of melting richness, and sounds very tempting, and if the pea receives proper treatment, it will prove its right to the title. This plant or vine likes good food, but if given the gross feed required by the cabbage, beet and onion, the vines will be tall, green and luxuriant, while the crop of peas will be very meagre. Practice has proved our method good, and we ask every farmer's wife, who has not a better, to give ours a trial. The plot intended for peas should be manured, spaded and raked in the fall. The first good season that comes after the middle of December the seed should be sown. Stretch your line; now draw a shallow drill each side of it; drop in the seed; then before covering them, lay on the outer side of each drill a row of common fence rails; now cover the seed; then fill up even with good manure. When they are 6 or 8 inches high, stick them with brushy sticks of about 5 feet in length. This comprises the entire culture, they never requiring working. In July we pull up the vines to make room for celery; and unless the spring and summer have been very dry, they are then full of peas. After trying a variety of sorts, we have discarded all but three. For early use we prefer the "Daniel O'Rourke," next to that the "Early Emperor." For later use there can be no better than the "Champion of England." We obtained these seed originally from the Patent office, and have never been such a poor gardener as to be under the necessity of buying or begging garden seeds, but annually give away a great many.

HOME COMFORTS.

Some of the truck farmers on Long Island have 15 to 18 acres in cucumbers. From $3\frac{1}{2}$ acres 60,000 have been sold in a day and \$1000 worth in a week. They are planted 4 by $4\frac{1}{2}$ feet apart, five plants in each hill. So says a correspondent of the London Gardener's Chronicle.

FRUIT GARDEN AND ORCHARD.

TRANSPLANTING.

The important work of transplanting deciduous trees and shrubs should be completed, if possible, this month. Bear in mind that in taking up trees for transplanting, it is necessary to observe much care in preserving the spongioses or small fibrous roots that supply nourishment to the plant. If these are bruised and broken in removal, the injured parts should be cut off before setting them in the ground. We have had a number of articles within six months past upon the preparation of the ground for trees. Let us remind you again of the necessity of doing this well. While we have no doubt that the culture of all the favourite fruits may be made very profitable, with access to good markets, we wish distinctly to warn every one of the folly of attempting it without a determination to give them thorough and systematic culture from the beginning. In the many articles we republish from other journals, we wish to present to our readers the views of experienced cultivators as to what may be done, but we would have them, especially our young readers, exercise prudence and caution, and not engage too zealously in any enterprise that may be new to them. In fruit culture, well prepared ground, and very careful transplanting are the foundation on which you are to build.

PRICES OF TREES, &c.

In our October number we gave a list of choice fruits sufficient for the supply of an average size family, the distances for planting, &c. A correspondent asks us to name the prices, so that he may know the probable cost of trees, &c. for such a purpose. The prices of some fruits vary a good deal according to quality, and of all according to quantity wanted. We will give, however, the prices of one catalogue for small numbers, from which others will not be found to vary very much. Forty apples, 20 cents each; twenty pears, 40 cents each; fifteen peaches, 25 cents each; twelve cherries, 50 cents each; ten plums, 50 cents each; six apricots, 40 cents each; four nectarines, 40 cents each; five quinces, 40 cents each; four grape vines, various prices, 25 to 50 cents; thirty currant bushes, \$2 per dozen; fifteen gooseberry bushes, \$3 per dozen; twenty raspberry bushes, 50 cents per dozen.

The Tea Plant grows in the Agricultural Garden at Washington. It is said that it makes a finer flavored dish of tea than that usually imported. It is drank without milk, and has a rich oily taste.

FLORICULTURE—March, 1860.

Prepared for the American Farmer, by Wm. D. Brackenridge, Nurseryman, Govanstown.

Much of the general out-door operations recommended to be performed in February, will, owing to the variable state of the weather during the latter part of the month, be still in progress; continue with energy to complete what you have begun, and make a systematic calculation in relation to what you still contemplate doing, touching the material, &c., &c., necessary to complete the same, leaving all unnecessary in-door work over until such times as the weather becomes unfavorable for out-door operations, or the ground too wet to work, at which time such in-door work can be advantageously attended to, for depend upon it, much damage is often done to both men and ground in working either when wet.

As March is usually a very variable month, in the condition of the weather, every favorable time should be promptly taken advantage of, in performing such trenching and digging as may be necessary, for such work when left over until spring fairly sets in, will have a tendency to leave other work of importance unattended to. All prunings of trees, shrubs and hedges should be raked together and burned. Bean poles, pea and plant stakes, ought to have been cut before this time, and placed on end in a dry situation to become seasoned.

Towards the last of the month remove the greater part of the winter covering from off the *Tulip* and *Hyacinth* beds; and attend well to your cold frames when the weather begins to get warm, by admitting a free supply of fresh air, and giving water more freely as the plants start into growth—should the early set hot-beds become too cold, then apply a lining of fresh stable manure and leaves.

Where the lawn has been top-dressed with rough manure, rake off the strawy portion and pass a heavy roller over the surface afterwards. Make preparations for the planting of trees and shrubs, nothing sets off a place to more advantage than strong irregular groups of these, planting solitary specimens of fine trees on a lawn.

In the Greenhouse the *Camellias* will now be getting out of bloom, and beginning to grow, prune back all irregular shoots, keep the temperature a few degrees higher, and the atmosphere humid while they are making their growth, when they ought to be partially shaded from the strong rays of the sun.

Azaleas will now be in fine bloom, at which time they require a liberal supply of water. Continue to sow seeds of such tender annuals as you wish to have in succession, and observe the instructions given last month for the treatment of seedlings and cuttings, as well as to the general remarks in regard to the care of the Greenhouse, which are alike applicable to the present seasons, in addition to which we would recommend a general overhauling of the whole collection, re-potting such plants as may require it, and top-dressing others—and in order to keep down insects that are most injurious at this season, syringe freely with soft water, in mild weather, to kill the red spider, and fumigate with tobacco to kill the green fly.

Sixty-Four Bushels of Wheat to the Acre.

The following from a gentleman whose name will be, to all who have any acquaintance with him, a sufficient guaranty of the care and accuracy with which his statement is sustained, will be read with interest by every wheat grower, both for the extraordinary facts it contains, and the details of cultivation and the comments of an experienced wheat grower in the best and most highly cultivated wheat growing county of the State—we mean Talbot county:

MR. EDITOR: In the December number of the *American Farmer* your remarks (induced by your Corroll county correspondent) respecting products of forty bushels of wheat to the acre, refer to the agricultural labors of my deceased father, the late Col. N. Goldsborough; and as an extraordinary crop of wheat was produced last year at Otwell, his late residence, the land upon which it grew being, as to fertility, as he left it, (no domestic or foreign manure of any kind having been immediately applied,) it appears to me that it is not only due to the promotion of agricultural knowledge, but peculiarly proper under all of the circumstances, that I should report the crop, with a sketch of the system which conducted to its production.

The field upon which it grew had, like the other portions of the farm, been subjected to the three field rotation of corn, wheat, and clover, for a great number of years. The farm, however, was divided into eight fields, so that the land could be grazed to advantage, there being three clover fields in each of two years of the rotation, and two in the other years. The number of animals grazed was very large, about one hundred acres of clover usually maintaining in the summer until sometime in the last of July or early in August when the stubbles were also grazed—say fifteen horses, fifty to sixty cattle, one hundred to one hundred and twenty-five sheep and lambs, and one hundred and twenty-five to one hundred and fifty hogs and pigs—making three hundred to three hundred and fifty, of all ages and kinds.

It had been the practice for years on this, as on many other well cultivated farms in this county, to dress the entire corn cultivation with some improving material. My father used unrotted farm-yard manure, marsh mud, woods mould. Indian oyster-shell deposit, marl, or lime variously applied. He never used the marl or lime extensively, but obtained almost all of the calcareous manure which he applied, from the Indian oyster-shell banks, and this he at one time applied very heavily upon land not shelled by the aborigines.

The field under consideration was, in its due course, manured and planted in corn in 1856, and in the fall the corn was cut off at the roots, and the ground was flushed flat in lands or beds seventy feet wide, harrowed, rolled, drilled in wheat without guano, and set in clover in the following spring. The crop reaped from it in 1857, (a bad wheat year,) was about twenty bushels per acre. I mention this to show the capability of the soil under such circumstances.

In the spring of 1858 the clover was filled with that terrible pest, "Pigeon weed," or "Red root," which now fatally chokes out wheat on many fine farms in this county, and I attempted to prevent it from seeding by stocking the field heavily, about the last of April, with horses, cattle, sheep and hogs, but the season being very genial for grass, the weed was left untouched, and therefore, to prevent its seed from ripening, I put in a large force of plows in the latter part of May, and broke the field about six inches deep, into lands seventy feet wide.

As a portion of the field was left unbroken with a view to a change in the sub-divisions of the farm, stock continued to trample over the plowed surface until after harvest, and as the plowing was at so early a period, it was of course necessary to harrow and roll it a great many times, (I do not know how often, as I do not reside on the farm, and no journal was kept,) to keep the grass and weeds under. It was *not* plowed a second time, and when it was drilled, there was nothing like a clod to be seen on the surface, and there was only loose earth enough, and in the condition of powder, to allow the drill to cover the wheat effectually, the earth beneath the wheat having become very firmly packed by the action of rain, the trampling of stock, and the effect of implements, in the four months that intervened between the plowing and drilling.

It was drilled with an old Pierson drill nine inches wide between the tubes, on the 4th, 6th and 7th of October, the wheat being deposited about one inch below the surface of the soil in the bottoms of the drill furrows.

The seed wheat drilled was thirty bushels which I purchased of Col. R. France, of Baltimore, at his then residence in this county—the variety being the beautiful smooth headed white wheat, obtained in this county a few years ago, from Mr. Johnson of North Carolina.

Two bushels were drilled on one acre, and the remaining twenty-eight bushels were drilled at the rate of one bushel and a sixty-one hundredths of a bushel per acre, at which rates the thirty bushels extended over eighteen acres and four-tenths of an acre.

The growth was enormous—maximum I suppose—being so dense that two persons, eight or ten feet apart in it, were invisible to each other, and the tallest specimens were six feet four inches in height, but it was generally about five feet six inches in height.

Just before harvest I laid off, by stepping, two lots designed to contain five acres or more each, to enter for premium. The wheat from each lot was carefully kept separate from all other wheat, and after it was threshed and fanned by the thrasher, (a Wemple thrasher and cleaner,) it was put in separate garners, where I estimated the yield by taking the length, breadth and depth of the wheat, and reducing the cubic feet to bushels; but by some error of calculation I now cannot account for, I supposed the yield did not exceed thirty-three or thirty-four bushels per acre, because, as I then supposed, of injury by army worms, and, therefore, I did not put it in competition for premium. I did not ascertain the actual yield, nor had I any adequate idea of it, until about the first of December, when I

made a final shipment of the entire crop of the farm.

The whole of the wheat from those lots was reserved for seed, and all of it except seven bushels was cleaned and used as such by myself and others. The product of the eighteen and four-tenth acres, excepting the raking, headings and screenings, was kept in separate garners from the other wheat raised on the farm.

A few days ago, I carefully measured the whole of the ground drilled with the said thirty bushels, and the two portions intended to be entered for premium, and found the latter to contain, respectively, four and sixty-seven hundredth acres and four and forty-three hundredth acres, making, together, (they are adjoining,) nine and one-tenth acres, and the former eighteen and four-tenth acres. The following is a statement of the yield:

The 18 4-10 acres yielded.

Bushels.	Bushels of 60 lbs.
300 Prime wheat weighing 63 lbs.....	515.00
495 Do. prepared for seed, weighing 63½ lbs.....	523.67
795 Prime wheat weighing.....	838.87
24 Raked wheat weighing 62 lbs.....	24.80
64 Screenings and headings weighing 56 lbs.....	59.73
883	923.40
883 divided by 18 4-10 gives 48 bushels (measure) per acre. 923.40 divided by 18 4-10 gives 50 18-100 bushels of 60 lbs. per acre.	

The 9 1-10 acres yielded.

495 Prepared, used for seed, weigh'g 63½ lbs.....	523.67
7 Prime, weighing 63 lbs.....	7.35
502 Prime, weighing.....	531.22
12 Raked wheat, weighing 62 lbs.....	24.80
46½ Screenings and headings, weigh'g 56 lbs.....	43.40
560½	587.02
560½ divided by 9 1-10 gives 61 6-10 bushels (measure) per acre. 587.02 divided by 9 1-10 gives 64½ bushels of 60 lbs. per acre.	

In the above statements, the two first items of each are known to be correct, but those for raked wheat and for screenings and headings, were ascertained by proportion, except a portion of the screenings produced by the nine and one-tenth acres which were separated by the revolving screen in preparing the seed wheat for my use, and were kept separate from the others. They are, however, in all probability, less than the true products, because more than half of the acres in wheat on the farm were corn ground, and as that wheat was not so heavy as the fallow, and not lodged or tangled, and was but very partially attacked by army worm, it did not yield as much raked wheat per acre, or as large a proportion of screenings as the fallow wheat yielded—and the extra fanning given to the four hundred and ninety-five bushels of seed wheat removed from it an extra proportion of screenings.

Of the eighteen and four-tenth acres, nearly an acre, extending along the river bank, contains such an excess of shells that it will not produce wheat of maximum growth, and of this at least one-fourth of an acre was almost entirely destroyed by the repeated depredations of a flock of geese, which after harvest also tore up a shock of four or five bushels so badly that it was thrown into the general bulk of raked wheat.

During my absence from the county, the over-

seer, thinking that it was a paramount object with me to plow the field before the Pigeon weed ripened its seed, plowed about half of the eighteen and four-tenth acres when thoroughly wet from excessive rains, and the wheat on all of that portion was greatly inferior to the other. (take heed, wet plowers.) This wet plowing, the injury from geese, and the natural inferiority of the very shelly portion above named, caused the difference in the average yield of the whole, and that of the nine and one-tenth acres.

The army worm ravaged the whole of this field, devouring first the grass, then the blades of the wheat and finally doing more or less direct injury to the grain.

I send you herewith a few heads upon which they operated.

Observe that several of the lower bars of grains have been entirely consumed and that the grains at the upper and lower ends of the heads, where they clipped off the points of the chaff, although perfect in form, are of very diminished size as compared with those of the middle portion.

To avoid the sun, which appears to be very obnoxious to them, they particularly prey upon the smaller stalks which do not attain to the general height of the crop, cutting the heads entirely off from a majority of such wheat, and for the same reason they almost entirely destroy the grain in all lodged wheat. From the above you may form some idea of the injury they do to a crop of wheat.

For want of requisite shade, as I suppose, they do not appear in wheat of light or moderate growth, and for some reason of which I have no idea, they only attack such fields as are in the vicinity of our salt-water creeks and rivers.—They totally destroy all young artificial grasses in wheat fields which they attack, which is probably as serious an evil as they inflict, and of late years our very rank wheat is very liable to be attacked by them.

The field of which the above named 18 4-10 acres of Johnson wheat is a part, contains about 55 acres, and the portion which was not occupied by that wheat (say 37 acres) was drilled with the old Blue Stem White. Viewing all of the circumstances, neither variety had any appreciable advantage that I can perceive, and the growth over the whole field was as uniform as was probably ever seen upon an equal extent of ground.

Many persons, and among them three very intelligent laboring men (white men) who assisted in harvesting the crop, thought that lots of five acres could be laid off in the Blue Stem that would yield more than similar portions of the Johnson, and yet the third of the field in the Johnson yielded almost as much as did the remaining two-thirds in Blue Stem.

I can only attribute this astonishing difference to the loss in the Blue Stem from the large admixture of inferior varieties, (that rarely if ever make other than dark and pinched grain,) which that wheat now contains. How much, therefore, does the success of a wheat crop depend upon the variety and its purity—and what an example does this case present of the fallaciousness of ocular estimates of crops; yet it is from such estimates that the most of our decisions are formed

respecting the value of fertilizers, and the relative value of different fertilizers, modes of culture and other important questions affecting our business.

But I am glad to think that there is now some prospect of the establishment, under the General Government, and in colleges and societies, of such endowed associations of scientific and practical intelligence as will conduct, direct and adequately encourage such experiments as will bring our agriculture towards the condition of an exact science, in the practice of which farmers will, with due confidence, enterprise, and success, employ active capital. That immense benefits will result from such a condition of things, to the agricultural, and extend from that to every other interest, is too apparent to deserve grave discussion.

M. T. GOLDSBOROUGH.
Ellenboro, near Easton, Md., Feb. 1, 1860.

Setting Fence Posts.

We have, all our lives, heard that fence posts, when set in the ground, should be inverted from their growing position; that is, that the butt end should be up and the other down. The suggestion is based upon the apparently plausible theory that, being set in their natural position, water is more readily absorbed into the sap vessels and decay hastened. We do not know what the theory is worth, but it is little trouble to invert the posts, and it is very well to give it at least a fair trial. Old as the notion is, we do not know of any experiment to test its value. The following we find communicated to the *Genesee Farmer* and is the nearest approach to it. Have any of our subscribers made a like trial?

"About thirty years ago, I, to test the thing, split two bar posts, side by side, out of a chestnut log. They were eight feet long, eight inches wide, and three thick. One I set butt down, the other top down. At the end of ten years, the one set in butt down was rotted off, and I re-set it in the same hole. At the end of six years it was rotted off again, and I put in a new one. The other lasted four years longer, when it got split in two, and I took it out and it was about two-thirds rotted off. Sixteen years ago, I set six pairs of bar posts, all split out of the butt cut of the same white oak log. One pair I set butts down, another pair, one butt down, the other top down, and others top down. Four years ago, those set butt down were rotted off, and had to be replaced by new ones. This summer I had occasion to re-set those that were set top down. I found them all sound enough to re-set. My experiments have convinced me that the best way is to set them tops down."

LIEBIG states, in his "letters on Modern Agriculture," that no Chinese farmer sows a seed before it has been soaked in liquid manure diluted with water, and has begun to germinate; and that experience has taught him that this operation tends not only to promote the more rapid and vigorous growth and development of the plant, but also to protect the seed from the ravages of worms and insects.

[For the American Farmer.]

Irrigation of Meadow Land.

One of the most important improvements in agriculture is the irrigation of meadow land, which has, during the last 20 years, created so great a sensation in Europe, especially in Germany, that it became a special science for itself, which was perfected by agriculturists and engineers, as neither could well get along without the other in performing the art of irrigation.

The writer of this, an agricultural engineer for a number of years in private and public services in Saxony, Prussia and other parts of Germany, had the opportunity of not only observing the results of his own extensive constructions, but also those of many other improvements noticed on his professional travels in other directions. As he considers his new country especially adapted for introducing an improvement so important and valuable as the production of grass in *great quantity, good quality, and by cheapest cultivation*, and as, to his knowledge at least, little or nothing has yet been done in the way of irrigation, he will try to demonstrate its value, hoping that intelligent agriculturists will take up the subject, and introduce so great a promoter of agricultural wealth.

If we, by means of irrigation, apply the water of a common running stream on the inclined surface of a gravelly soil, which could not produce any vegetation before, we will notice, almost without exception, the appearance of clover, leguminous plants, vetch, &c., amongst many other kinds of good grass, which will remain permanently without the use of seed. This fact and the general results of irrigation prove the water to contain a rich manure, which is dissolved into the smallest imaginable particles and ready for its immediate reception by the growing plants. Chemical analyses also confirm the presence of mineral substances in spring water, and mineral, animal and vegetable substances in all flowing water, running through regions where vegetable life is present. The more or less quantity of manuring substances in *spring water* depends on the kind of soluble rock through which it finds its way to the point where it makes its appearance on the surface of the earth. The *running water* of streams contains of course the tributary elements of the spring water, though in a smaller proportion, owing partially to the sediment of certain salts when exposed to the air, but mostly to the reception of rain water, which is known to contain the least admixture of foreign substances. But at the same time the running water of a stream receives the many vegetable and animal remains washed off by rain from the surface of adjacent fields, and will contain the more of these, the richer the soil of the region is, through which it takes its course.

We know that all kinds of grass contain great quantities of silica and salts, shown by analysis of their ashes. These and the elements of the atmosphere, combining the constituents of grass, we find to exist in our springs and streams to no small extent. An instance of the great quantity of salts in *spring water*, is reported in Boussingault's Annals of Chemistry, where he states the artesian well of Grenelle (the water of which is considered very pure) to carry annually 60,000

kilogr. of salts! Another instance of the contents of *rain water* running off from a field before and after it was manured with guano, is given by Wilson, whose analytical comparison shows the following results:

	Before manuring.	After manuring.
Solid substances in 18 lbs.....	15.20 gr.	27.500 gr.
Organic matter.....	8.40 "	7.800 "
Silica.....	0.90 "	0.700 "
Silicate of Alumina.....	0.40 "	0.200 "
Oxide of Iron.....	2.10 "	2.250 "
Chloride of Magnesia.....	1.12 "	.....
Magnesia.....	.....	1.090 "
Chloride of Soda.....	1.80 "	2.615 "
Chloride of Calcium.....	3.00 "	2.107 "
Carbonate of Lime.....	.....	2.700 "
Sulphate of Alumina.....	0.85 "	.....
Phosphate of Lime.....	0.30 "	3.160 "
Phosphate of Alumina.....	.....	0.450 "
Phosphate of Magnesia.....	.....	1.900 "
	13.57 gr.	26.412 gr.

By these few statements and explanations it may be at once observed that enormous quantities of the most valuable manure are annually carried off by streams into the ocean, lost forever to the farmer. Should we neglect to make use of so precious a present of nature, which we have in so great a number of streams in this country?

This great loss can only be fully comprehended by one who has witnessed the great effect of irrigation, the art of distributing the manuring elements of streams over the soils suitable for the purpose. If one has seen thousands of acres of barren gravel land, or marshes unfit for the plow, and the same worthless lands afterwards changed into beautiful blooming meadows, he cannot but feel regret at the sight of those many rivulets which could so easily be made a source of wealth to the farmer, nay, to the country! Look at the flourishing provinces of Europe where irrigation has long ago been practised, as, for instance, in Lombardy, Southern France and some parts of Germany! Five crops of hay annually are common in Lombardy—three in Germany, never less than two. The value of irrigated land is double and more than that of the best land under plow. These are facts, irrefutable truths. Since the governments of these countries have taken steps in prosecuting the subject of irrigation, by issuing laws for assisting the farmer in the use of private and public waters, etc., pupils for studying the knowledge of irrigation are sent from Norway, Sweden and Russia to Germany. There can be no doubt that the subject of irrigation is one of the most important in agriculture. Its general introduction, however, in all parts of any country has met and still will meet difficulties, originating from prejudice. One farmer will say, "his meadows are wet enough"—not knowing that irrigation is applied only after a perfect drainage in connection with the improvement, and that his "wet" meadows only produce sour grass, whilst irrigated meadows, free from stagnation, produce only good grass, if not spoiled by ill-treatment; that an irrigated meadow at any time can be laid dry in a few days, so that heavy wagons may pass over them without leaving a track. Another will say the grass produced by irrigation cannot be as healthy to the animals as that from dry grass land—and they

do not observe that, whenever such a case might have occurred, the only cause of it was the unreasonable application of irrigation. Still, others will say that the cost of the improvement is too high and not in proportion with the increase of produce—and they are not aware of the fact that in most instances the expenses of the improvement are repaid by the first few crops.

Such and more objections as mentioned above will always occur. It is astonishing (as I have often noticed) to see a flourishing district of irrigated meadows, and not many miles off find that the most favorable opportunities for irrigation are entirely neglected, the consequence of prejudice! Nevertheless, the intelligent farmer will not shrink from any opposition, but investigate and experiment, at least on a small scale, by which he has nothing to risk.

The only value given to water generally, is its moistening property. Everybody knows that water is indispensable for the solution of manure, and that the largest amount of manure put on a field is useless if not dissolved by water in time; that in dry summers the moistening of grass would prevent its dying off. The other property, the fertilizing power of running water (as explained above) is generally not known or less understood. Both properties, however, can be noticed and plainly distinguished on an irrigated inclined meadow. On and near the horizontal border of an irrigating ditch, we observe the most luxurious growth of grass, whilst some distance off, it shows a striking difference, whereof we make the conclusion that the manure has settled near the ditch by the friction with the grass plant, and farther below, the water is deprived of its fertilizing property.

This interesting fact is very important for the equal distribution of fresh water over all parts of an area subject to irrigation, and furnishes us with the rules for the number of ditches required. The method of making slits along the border of a ditch through which the water is forced to flow over the adjacent area, is entirely objectionable and may be termed "wild irrigation," which we sometimes find in mountainous regions where nature indicates the effect of little streams, which can be easily turned out of their beds for the benefit of the growth of grass. If in such cases a more skillful treatment of the subject were applied, the result of irrigation would be double as large and more.

The artificial treatment of irrigation teaches us how to prepare the surface of the ground for receiving and carrying off the water—what quantity of it is required for a certain area—what dimensions and inclinations are to be given to the ditches—by which rules irrigation is to be guided, etc. Study and experience is required for making these improvements; leveling and surveying are indispensable means in executing the work.

To effect an early and general introduction of irrigation in this country, I propose the best means would be, that a gentleman or company would take up the subject, make an experiment on a small scale, have pupils admitted to witness the process, and, after they are qualified, send them to other localities for the execution of such improvements. For that purpose, i. e. to construct, and instruct others, I would offer my services to the public and would feel happy for the

success of the introduction of so important an improvement in agriculture.

As to my character and ability as an engineer, I refer to Benj. H. Latrobe, Esq., of this city, with whom I have been connected for years, and also to Phil. T. Tyson, Esq., State Agricultural Chemist, who is much in favor of the subject.

AUG. FAUL,

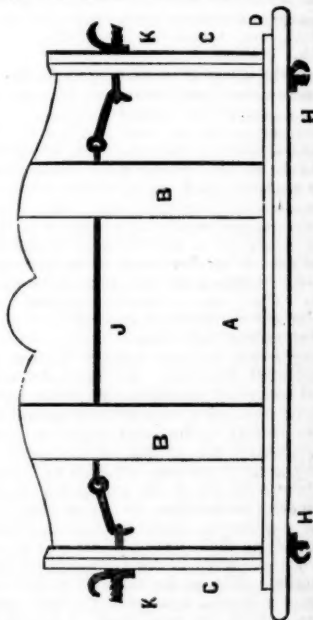
372 Light-st., between Cross and West-sts.

Care of Charles Weber, at Consul Schumacher's office, S. Charles street.

[For the American Farmer.]

End Board for Wagon Bodies.

FRIEND WORTHINGTON: Permit me, through your columns, to recommend to such of your readers as use plain board wagon bodies, the best and most convenient end board I ever yet have seen. The accompanying pen and ink sketch will convey the whole thing at a glance, with the exception that I have drawn the iron work too large in proportion to the wood.



By simply turning back one of the monkey-tail screw-nuts, (K,) one hook can be released, and as the rod of iron (J) has a sliding motion behind the battens, (BB,) the other hook can then be released, and the end board can then be slid upwards very readily.

The only specialty to be noticed in making and putting it together is, to put the rod an inch or so above the level of the screw-nuts, so that when screwed tight, the tendency is to keep the end board snug to the bottom. Its advantages are simplicity and ease with which it is taken

out, put in, or tightened up, the great gain that there is nothing to be taken out which can be in danger of being lost.

Yours, as ever,

A. VAN DOREN.

Pruning and Mulching Grape Vines.

The question has been frequently raised and discussed among grape growers as to the best method of pruning and training grape vines, and the opinion has been urged, with much show of reason, in favor of allowing vines to follow their "natural ways" somewhat more than is done in the general vineyard practice. It is at any rate well that cultivators keep their eyes open on this point, and bring to bear upon it all the facts they can command. An intelligent correspondent of the *Horticulturist* maintains this opinion by several facts under his observation. He speaks as follows of the practice of Mr. Corse, at his nurseries near this city, both in training and mulching, and makes several suggestions worthy of note:

"Ten years ago I was in Sinclair & Corse's establishment, near Baltimore, and here for the first time tasted native grape wine—and I could wish nothing better. I asked them how they treated their vines. Come and see, was the reply. Their vines were trained on trellises some eight or ten feet high, the ground thickly covered with fresh leaves. In the spring, when the frost is out of, and the ground dried off pretty well, they rake off the leaves, give a top-dressing of manure, and I think dig it in slightly, then cover on the leaves again, and what waste there was in last year's decay supplied from the forest. This is all, besides pruning and picking fruit. Isabella was the principal stock.

Must we trench two or three feet to obtain the finest grapes, and to have the vines last? If so, why do not our old residents of the forests run their roots deep down, instead of creeping (as a sailor would say) between wind and water; or, in other words, close to the surface under the leaves? And why do young vines that have been set out in May, in a bed only a foot wide, trenched and manured a foot deep, run their little roots two feet into the common soil not over three inches from the surface. And why did not my border, five feet wide and three feet deep, filled with leather shavings, old mortar, leaves, cow dung, etc., keep three year old roots in its fertile bosom, instead of sneaking off ten feet and netting themselves under an old hot bed, when they had but one inch of good soil on a hard yellow clay, to pass through to get over the path, and that path three feet wide and considerably used? These things puzzle me considerably, and suggest that a little less trenching would answer as well; less trimming and a great deal of mulching would pay as well."

We believe in the right of free speech, even of men whose speech, when delivered, we do not believe.

Oil Cake or Meal for Feeding.

We are much indebted to Mr. John Johnston, the venerable farmer of Western New York, for the following very prompt reply to an inquiry, made of him by letter, as to the value of oil meal in comparison with corn, and the quantities used in feeding to cattle, sheep, &c. The meal (which is the cake ground) can be bought in Baltimore for \$40 per ton of 2000 lbs., but it is so little known to our stock feeders that it is usually shipped to England:

NEAR GENEVA, 3d Feb., 1860.

N. B. Worthington, Esq.

DEAR SIR: YOUR letter of 30th ult. is before me. With regard to oil cake meal for food for sheep and cattle, I will state that I have fed it for twenty years and over, from 10 to 45 tons in a season, beginning with it at \$10 per ton and following it up to \$30. That will show what I think of it for feeding, as well as any thing I can write, as I can assure you I have no money to lay out unless a fair prospect of getting it back with interest. When I feed oil meal, I feed the same quantity by measure that I do of corn meal. Oil cake meal weighs only 50 lbs. per bushel; our corn here generally weighs from 60 to 62 lbs. per bushel. I consider 50 lbs. of oil meal better than 60 lbs. of corn meal, to feed separate, but to mix them they make excellent feed, but I think no better than pure oil meal. For sheep, I think nothing as good as pure oil meal, but perhaps a change from that to grain occasionally may answer a good purpose. I have hitherto fed from 500 to 1000 sheep annually, and when I can procure oil meal enough, I feed that only 1 lb. per day, each, for sheep, which makes good fat sheep. You cannot stall either cattle or sheep on oil meal any more than you can on hay. Now you can readily stall sheep and cattle on grain. Sheep cannot stand more than 1 lb. each daily of either corn or barley. Whenever I fed 1½ lbs. each, I had always a loss by foundering or rushing of blood to the head, but they will fat fast on 1 lb. of either corn or barley and 1½ lbs. of oil meal daily. For three year old steers, I feed generally on an average for two months, from 4 to 5 quarts daily, increasing to 6 quarts or more the third month. This, with good hay, makes me fat cattle, and it depends whether 50 lbs. of oil meal or 60 lbs. of corn meal costs or would bring most, (as I buy no corn,) whether I mix it or not. If oil cake meal is worth no more per bushel, I would prefer the oil meal, (if I had the corn to purchase.) For lean stock, oil meal is almost invaluable. Lean cattle or sheep cannot stand corn for food, at least enough of it to improve them, for a long time, but give enough of oil meal and you can soon see them improve daily. I don't like pure corn to feed any thing unless it is oxen that have been accustomed to it. I prefer mixing it with oats—still better with buckwheat, if I have not oil meal. For horses for hard work I don't think much of oil meal; for pleasure horses, it gives them a very fine, glossy coat and keeps them healthy; every thing keeps in good health that is fed on oil cake.

Yours, truly,

JOHN JOHNSTON.

[For the American Farmer.]

Shade Theory—Reply to Dr. Baldwin.

In the last number of the *American Farmer* Dr. Baldwin has presented some propositions of his "shade theory." The Editor thinks that while he agrees with the doctor "mainly as to the facts," he "does not see that this theory explains the facts at all." He considers that, under the usual course of such discussions, all that he can be properly called upon to do at present, is, either to assent to or dissent from these propositions; and in the latter case (as he has partially at least done so) it is properly the business of the doctor to present evidence of their truth, as he understands it. This will bring the discussion fairly before the public, and the merits of the theory will become known. This should be the aim of all agricultural writers, to benefit the agricultural interest.

But as the doctor has asked a member of my family "why I did not undertake to refute his theory?" I now propose to notice his propositions somewhat in detail. To the first proposition little need be said, beyond what the Editor said last month. In the second and third, he asserts that "each change is a distinct and peculiar chemical process, differing not only in the circumstances requisite to produce it, but also in the nature and chemical composition of each product;" "this is known to be true with regard to the vinous and acetous fermentations, and is equally true in regard to every other." The juice of grapes, apples and other fruits, as well as the sap of trees and vegetables that contain saccharine matter, if exposed to the air (and it is difficult to prevent a contact with it) will first pass into the vinous fermentation, and if we want to use the article in that state, we must stop the fermentation there. If we want to have it in the state of the acetous fermentation, all we have to do is to let it alone, and it will pass into that state. If we wish it to proceed to the putrefactive fermentation, just give it plenty of air and it will pass into that state ultimately; and if there is but little saccharine matter in it, it will often pass into the latter without showing much of the vinous fermentation at all. Now, it may be a question, whether "each change is a distinct and peculiar chemical process" or not; it seems to be a continuation of the same fact, of the increase of oxygen, that powerful agent of destruction, effecting all organic tissues. In the first, there is but little oxygen; in the second it is largely increased, and the third still larger, until the matters are being separated into their original elements.

In the fourth and fifth propositions it is asserted, "that a close, cool, dark and damp location, with a contact of air, is indispensable to the generation of the putrefactive process. All organic substances experience this change only, when thus located." "No substance whatsoever will undergo the putrefactive process when exposed to heat, light and a free circulation of air." Does not the body of a dead animal, exposed on the surface of the earth in summer, undergo the putrefactive process? If not, we have been using a wrong term to designate the process by. We have been taught to believe that whenever ammonia is given off, there the putrefactive process

is going on. To say that that process can only go on in "a close, cool, dark and damp location," is something different from the common understanding of the matter, and it remains for the doctor to explain himself so that we can understand him. He must be using terms, or at least giving them a signification different from the rest of us. This is wrong, and tends to confusion.

The sixth proposition asserts, "that decay or cremacausis is a distinct chemical process, differing essentially from the putrefactive," and "is invariably destitute of fertilizing virtues." Is not the rotting of wood and leaves in our forests properly "decay or cremacausis"? If not, what is it? We know that the remains of these matters are not "destitute of fertilizing virtues."

Seventh proposition—"Putrefaction may be considered the ultimate result of vegetable and animal decompositions, because it forms the only product incapable of any other chemical change and is consequently indestructible." Philosophy teaches us (and there is strong reason in the argument) that matter cannot be destroyed, that putrefaction and all other chemical changes only release the combinations in which they were held, and thus enable them to form new compounds.

Eighth proposition—"That the excrement of animals is not manure; like the bodies of animals, it never becomes the food of plants until subject to putrefaction." This proposition I object to in toto. All of us farmers have seen the fresh "excrement of animals" spread over grain and grass land, exposed "to heat, light and a free circulation of air," where the doctor asserts "no substance whatever will undergo the putrefactive process," and yet we have witnessed there an unmistakable increase of growth in grain and grass. How is this? or has the doctor some other name than manure for this result? We wait for an explanation.

Ninth proposition—"Whether 'the value of manure' is to 'be estimated by the density and duration of the shade to which it has been subject,' is a question we can determine better when the doctor informs us how he makes his manure. We want facts—we can understand them better.

Tenth proposition—"That the surface of the earth itself will readily undergo the putrefactive process, if favorably located, that is if densely shaded, which of necessity implies a cool, dark, close and damp location." That the organic matters in the earth may "undergo the putrefactive process," is readily admitted, but that the mineral matters do so is denied. They no doubt do, in such cases, decompose and become more readily assimilated by plants, but that this is the putrefactive or rotting process is a mistake; this process can only take place in organic structure.

The denial of the organic matters in the earth undergoing the "putrefactive process," is sufficient answer to the eleventh proposition, until there is proof advanced that these can be made into manure, as asserted.

In the twelfth proposition the assertion is made that "all soils alike may be made exceedingly fertile by shade alone." I like the plan of John Johnston, of New York, in his agricultural essays; he gives his own experience, and thus proves the theories he has advanced, and calls on others to profit by his experience. If the doctor

will do this, and show how the sandy soils of our sea coasts, as well as of many places in the interior, where the soil is made up almost entirely of silicious sand, can be made "exceedingly fertile" without costing more than the profit can be, he will deserve well of his brother farmers.

Whether the "respectful request" that the Editor would "assign his reasons freely and unreservedly" was intended to apply to any others than the Editor, I believe, however, I have done so, and request the doctor to do so by this.

YARDLEY TAYLOR.

Loudon County, Virginia.

Soiling Stock.

WASHINGTON, D. C., Feb. 5, 1860.

To the Editor of the American Farmer:

SIR: Will you favor an inexperienced reader with information which will aid him in *soiling* his stock, particularly his milch cows, the next summer? He has made all the preparation in his power for providing an abundance of grass, mainly by top-dressing his clover and greensward. But he wishes, if possible, to have a supply of green food *before grass comes in the spring*, and after the grass fails in midsummer.

What grain shall this "green" farmer sow yet this spring which will be fit to cut and feed in a green state before he can mow his lawn? When shall he sow it, and how much to the acre? What shall he sow on rich land to give him green food in great abundance in July, and when shall he sow, that it may come in after the first of that month? He has had some thought of sowing rye for early feeding, and corn and oats for later use, but he does not know how to time his planting with reference to the known maturity of his green crop. Can you relieve this

IGNORAMUS.

P. S.—Please observe that whatever can be done to *force* the crop, by abundant top-dressing, your correspondent can do, having command of manure. He saw last year that the waste oats which shattered out on his young clover, though the land was very dry, and far from rich, after top-dressing the clover, vegetated finely in midsummer and gave quite heavy pasturage as late as November. He sees, therefore, that he can have *late* green food by sowing oats. But how shall he obtain green summer food, and very early spring food, most cheaply and in greatest abundance?

The earliest spring feeding is rye, sown thickly (say two bushels to the acre) for that purpose. It should be sown in September in order to get the greatest advantage in point of time, and may then, if desirable, be grazed to some extent in the latter part of the fall. Sown as late as March it will make earlier cutting than clover. There is no other plant of which we have any knowledge that answers, so well, the purpose. Lucerne has been highly commended for soiling purposes. We have not found it so valuable, in our trials of it, as its reputation in the papers would indicate. It is fit for cutting earlier than

red clover, but we have found that on land of the same quality two cuttings of clover would yield much more food than three or four of Lucerne. We should like to have the result of any of our readers' experience. The Lucerne is much extolled in English books and by the journals in this country generally.

Our correspondent will find that after rye, clover will follow. Oats may be sown early and thickly (three bushels to the acre) to come on after the first cutting of clover. By the time this is past, corn sown early in drills will be fit to cut, and in successive crops should be relied on as the most productive and probably the very best for the purpose. The Chinese Sugar Cane (Sorghum) may be quite as good—possibly better. A first sowing of either should be made about the middle of April, and other sowings every two weeks till the end of June. When about to tassel is, perhaps, the most proper period for using it. Neither of these should be sown broadcast, but in drills $2\frac{1}{2}$ to 3 feet apart, and not very thickly. The more perfectly the plant is developed, the better food it makes. Very thick seeding causes the lower leaves to rot, and injures the quality of the crop.

Some of the field peas might be advantageously used for the purpose of soiling. They may be sown by the middle of May and as late as July, and be fit to cut for soiling from the middle of August until killed by frost. They make more crop than clover, and of equal quality for feeding if cut when the pods are forming.

As our correspondent is apparently disposed to have things well done, we should be glad to have him make trial of the Italian Rye Grass, of which we gave a full account in our February number. It is considered, in England, extremely valuable for soiling purposes.

We have answered our correspondent's questions as well for the benefit of others, who may want like information, as for his. Soiling should be much more practised than it is, especially for milch cows and working stock.—Ed.

LINSEED MEAL is the ground cake of flax-seed, after the oil is pressed out. It is very rich in fat-forming principles, and given to milch cows it increases the quality of butter, and keeps them in condition. Four or five pounds a day are sufficient for cows in milk, and this amount will effect a great saving in the cost of other food, and at the same time makes a very rich milk. It is extensively manufactured in this country, and largely exported, but is worthy of more general use here. It must not be fed in too large quantities to milch cows, for it would be liable to give too great a tendency to fat, and thus affect the quantity of milk.—*Flint on milch cows.*

Clover and Wheat.

We have received from Mr. T. B. Coursy, of Kent county, Del., a copy of an Essay read by him before the Agricultural Society of that county, on the subject of "Green Manuring."

Mr. Coursy maintains, and we agree with him in the opinion, that green unmatured crops should by no means be turned under, for the purpose of fertilizing the soil. The unmatured plant, though apparently as bulky, is not in substance equal to that which is matured, and not only so, but by experiments within our knowledge, has been proved hurtful. We think, moreover, that the longer the crop is kept on the surface and not turned under at all, the greater the fertilizing effect. In this opinion, too, Mr. Coursy apparently coincides with us.

Of the relation of clover to the wheat crop, and his suggestions as to the management of the clover crop, we quote the conclusion of his essay, as follows:

"Professor Johnson, in a course of scientific lectures delivered before the Agricultural Society of the State of New York, in speaking of turning under green crops, says: 'The roots of plants go down as far as possible (if the habit of the plant is that way) in search of food. Among this food are mineral matters, lime, potash, soda, &c. The roots send this up into the stem of the plant, and if you plow in the plant, you supply the surface not only with nitrogen but with mineral matters. This is the philosophy of 'green manuring.' It does not put anything new into the soil, but it brings up from below and puts upon the surface that which renders the surface fertile.'

Another eminent agricultural writer, Dr. Dan'l Lee, says: 'The value of clover as a fertilizing agent arises from the fact that in its matured state it is richer in inorganic constituents than in its green state, and contains all the substances that are necessary to the production of wheat, as the following table will show:

Inorganic constituents required to produce an acre of wheat, estimated at 25 bus. pr. acre.	Inorganic substances furnished by an acre of clover turned under, at 2½ tons per acre.
Potash and Soda..... 24 lbs.	77 lbs.
Lime..... 16 "	70 "
Magnesia..... 13 "	18 "
Alumina, no estimate.	
Silica..... 121 "	15 "
Sulphuric Acid..... 2 "	7 "
Phosphoric Acid..... 17 "	18 "
Chlorine..... 1 "	7 "
Oxide Iron & Alumina...	90.100
194 "	212 90.100

The organic substances furnished by an acre of clover, as compared with what is required by a crop of wheat, are, per acre, as follows:

Per acre.	Carbon.	Oxygen.	Hydr'n.	Nitr'gn.
Clover supplies, lbs. 1750	1396	185	78	
Wheat requires, lbs. 1487	1262	171	32	

The above table may or may not be correct, for I make no pretension to an acquaintance with

the science of analytical chemistry, and consequently could not detect an error, if any existed; but the high source from which it emanates is sufficient ground to justify the belief that it is correct. Furthermore, it is corroborated by an analysis on the same subject by Dr. Pridenau and Professor Way. Then, if we admit that it approximates the truth, it shows, conclusively, that clover furnishes an excess of all the substances (organic and inorganic) required by the wheat plant. Hence I conclude that there is no crop that we can turn down which is so eminently qualified to promote the growth of wheat, as clover in a matured state. Assuming this to be demonstrated, then the proposition is to clover the corn-stubble, fallow the clover for wheat the same year; clover on the wheat, and rest for two years, unless there are a sufficient number of fields to allow a longer rest; in that case sow timothy with clover, and dress with lime occasionally. An eminent agricultural writer objects to following clover with clover; but I think the objection will not hold in this case, for although we clover previous to that on wheat, it is not designed, in this course, to either mow or feed off the first crop, consequently the clover turned down will return to the soil all the elementary constituents extracted from it, together with all the organic substances extracted from the atmosphere; and the land will certainly be in better condition than it could have been had a crop of oats been taken from the ground instead of a crop of clover turned under. Although, as Professor Johnson justly remarks, that 'turning under green crops puts nothing new into the soil,' yet it puts it into a new form, or at least, brings it within reach of plants whose habits are to search nearer the surface for food. Clover is a deep feeder; I have seen roots drawn that extended twenty inches down; how much farther the fine fibres extended I know not. I therefore maintain that clover turned down, in a matured condition, is better than the same turned down green; as the matured clover has gathered, in greater abundance, the elementary substances from the subsoil and atmosphere, and peculiarly prepared them for promoting the growth of wheat. But to keep the land in a fertile condition, it must necessarily, to a certain extent, have returned to it, from the manure heap or other source, the elements which have been extracted from it by corn, wheat, and other crops."

The remark of Professor Johnson that "green manuring" does not put any thing new into the soil, is strictly correct as to inorganic constituents, but not so as to the organic, of which some plants furnish a large and available supply. Our remarks are directed, however, to Mr. Coursy's practical suggestions. He says: "clover corn stubble," that is, sow in spring without small grain;" fallow the clover for wheat the same year," then "clover on the wheat," &c. Anticipating the objection to clover after clover, he says: "but I think the objection will not hold in this case, for although we clover previous to that on wheat, it is not designed in this course, to

either mow or feed off the first crop, consequently the clover turned down will return to the soil all the elementary constituents extracted from it," &c. The objection we make to such a course is that, first, if the clover be sown without a grain crop, a volunteer growth of weeds come up, exhausting the land as much, perhaps, as a crop of oats, and scattering thousands of seeds. Secondly, the fallow for wheat must be postponed to too late a period of the season. It is almost universally considered desirable by experienced wheat growers to have the fallow completed a month or more in advance of seeding time. To await a considerable growth of clover the first year from the seed, would postpone the ploughing so late that it could hardly be completed at all in what would be considered good seeding time; to say nothing of the chance of further postponement by long continued drought. There is the further objection, as regards the crop of wheat, which is so generally held against having much vegetable matter ploughed under, unless it has ample time to decompose.

Again, we think a good set of clover is much too great a prize to the farmer to have it broken up before half its mission is fulfilled. Its first year's crop, up to such time as it must be ploughed for wheat, is really but the beginning of its growth. Both in stem and root it is almost as nothing compared with that great increase of both which is made between the first of April and the 10th of June of the second year.

But it is proposed to sow clover seed again with the wheat now sown upon fallow. This might do for a while on land not before clovered, (though we should doubt even this,) but we are confident could not answer for a settled course of rotation. There is nothing that clover demands so absolutely as a clean bed. The accumulation of filth in the soil by the course suggested, however full the soil might become of the elements of the plant, as suggested by Mr. Coursy, and however abundantly supplied with seed by leaving the crop on the ground, would very soon render it so "clover-sick" as inevitably to break up the system. In preference to Mr. C.'s suggestions, we should get the greatest possible crop from the one seeding, and then take at least one cleansing crop (frequently two or more are desirable, especially if manured) before reverting to the clover. Our opinion is, that "clover sickness," as it is termed, is more an impatience of filth in the soil than any thing else. The best crop we ever saw grow was sown with the fifth of a series of grain crops.

Lime as a Fertilizer.

[CONCLUDED.]

Felspar is a mineral which abounds in granite rocks and consists of a silicate of potash, combined with a silicate of alumina in somewhat variable proportions; and when pure, which is rarely the case, contains only silica, potash and alumina. Albite, which may be considered as a variety of felspar, contains soda instead of potash—the two minerals are frequently found together, the felspar usually predominating. The following table shows an analysis of them:

	Felspar.	Albite.
Silica.....	65.21	69.09
Alumina.....	18.13	10.22
Potash.....	16.66	.....
Soda.....	.....	11.69
	100.00	100.00

Mica consists principally of two varieties, potash mica and magnesian mica. Potash mica contains, among other substances, about eight per cent. of potash, combined with silica. Magnesian mica, besides containing about five per cent. of potash, contains about nineteen per cent. of magnesia. It may be distinguished from the former by being much less fusible. It has a darker color, and is frequently almost black.—The application of caustic lime to land containing these minerals, has a wonderful effect in increasing their fertility. The lime combines with a portion of the silica of the felspar or mica, and sets free a portion of its alkali, or reduces the proportion of silica, so that the mineral is soluble in water which contains carbonic acid.

Some soils, especially those that are peaty, and lie in iron ore districts, contain sulphate of iron in such quantities as to be hurtful to vegetation. This salt is decomposed by the action of lime, with the formation of gypsum and oxide of iron, which latter substance is soon, by the action of the air, converted into red oxide, which is not injurious, but, on the contrary, often beneficial to vegetation. When it is known or suspected that a field contains sulphate of iron, an analysis should be made of both soil and sub-soil, for the purpose of computing the quantity of lime necessary to decompose it. A large quantity might sometimes be required for this purpose, and thus considerable gypsum would be produced, so that no application of this fertilizer would be needed for a number of years. It must not be supposed that such a condition of the soil is at all common; when sulphate of iron is present in any perceptible quantity it will show itself in its injurious effects upon the growth and quality of the vegetation. When the soil is kind, and improvable by the use of ordinary manure, nothing of the kind should be suspected.

Fifthly, the state in which lime is applied. If it is harrowed in with seed, in quantities approaching 100 bushels per acre, it should be thoroughly slaked and exposed to the action of the air, so that a small part may be converted to a carbonate, because if wholly in its caustic state it may be hurtful to the young root fibres. Whenever it is applied with the seed, it should be thoroughly pulverized before sowing; indeed, under all circumstances, it is better to use it in a well divided condition. If lime is used mainly for the purpose of decomposing alkaline

silicates, it should be applied a few days before the planting or sowing and should be freshly slaked.

Sixthly, the other manures to be added. This question involves a great many principles of agricultural chemistry, and to be fully answered, would alone require an essay—it will, therefore, be proper to simply notice some of the more obvious indications. If Peruvian guano is to be used, the soil should be in a condition to retain all the ammonia, and this condition will be likely to exist where there is considerable decayed vegetable matter, or where the soil is light and porous. When there is but little humus, however, and the soil is close and hard, an application of lime will improve its tilth, but should be made some time before the application of the guano; because if made at the same time, it would expel a part of the ammonia. The price of guano is so great, and it is so soluble and liable to be leached and washed away that whenever it is used great care should be taken to have the soil contain all the elements necessary to the growing crop, in an available condition. If potash and soda are deficient, much of the ammonia and phosphates in the guano will be wasted; the plant cannot obtain all its constituents in sufficient quantity; its growth will be slow, and much of the guano will be unused, and consequently washed away by the rains. If ashes are to be used, the quantity of lime may be less than otherwise, to the extent of about two-thirds the weight of the ashes. The same remark applies very nearly to bone dust. Both ashes and bone dust contain phosphate of lime, it being the principal constituent of the latter, and forming from two to ten per cent. of the former. Bone dust, when made from fresh bones, contains nearly fifty per cent. of organic matter, but as generally obtained, it contains scarcely twenty-five per cent. This organic matter is chiefly cartilage, and contains nitrogen, and yields ammonia by decomposition. The amount is so small, however, and the decomposition takes places so slowly, even when acted on by lime, that there is little danger of its escaping from the soil.

In regard to the frequency with which lime ought to be applied, there is some difference of opinion. A consideration of the following facts, some of which have before been mentioned, will show that although the time may vary according to the location of the land and the texture of the soil and sub-soil, it is preferable, as well for present advantage as for the durability of the soil, that the applications should be small and frequent. Lime, directly or indirectly, increases the solubility of the other mineral constituents of the soil—potash, soda, silica, the phosphates, &c., and it is evident that an amount of soluble mineral matter, beyond what is required for a maximum crop, can be of no more benefit than a quantity which is just sufficient. Therefore, if this surplus descends into the sub-soil, or is washed away by rains, it becomes a clear loss, and can only be made good by the actual addition of the same substances. But when land is in a high state of cultivation, we cannot entirely prevent the loss of some manure, and for various reasons we cannot apply enough lime to have a marked effect upon a crop without causing more material to become soluble than actually enters

into its composition. Lime has a great range of relations to all the other ingredients of soils, and its application presents problems which for the sake of the present, as well as future generations, should be carefully considered, and all the deductions of logical thought and scientific experiment understood, as far as may be, by the farmer. He should study to know what he is doing; if possible, all that he is doing when he guides the plow or applies his fertilizers to the earth; for he is not merely turning up and loosening the soil, but he is working in nature's vast laboratory, and thousands of unseen changes are taking place beneath the labor of his hands; and in proportion to the amount of wisdom by which he is guided, will the future rejoice in abundance or lament in want. Not only the millions that now live, are dependent upon him, but countless millions yet to be, will either feel the blessed effect of his farseeing and frugal management, or bear the misfortunes resulting from his unwise and wasteful course. C. L. H.

[For the American Farmer.]

Management of Clover Seed.

MADISON COUNTY, Jan. 30, 1860.

MR. EDITOR: Can you give me any information with regard to the management of clover seed; the best manner of getting out from the stack; the best time of sowing in the "pug" to insure a stand on wheat fallow? Any information with regard to time of cutting and saving and best machinery to be used in preparing the same for market, will be thankfully received by a subscriber to your most valuable magazine.

N. B.—I have seen where fifty and sixty bushels of wheat have been raised to the acre. Can you inform me how this is done? I think I have as good land as any in the country, and can never get over twenty-five bushels per acre. My land is of a dark chocolate color, full of black gravel. Any information with regard to the amount of wheat (either red or white) to be sown to the acre, and the number of pounds of Peruvian Guano to be applied to the acre, to ensure the largest crop, will be thankfully received.

I use the Seymour Drill in sowing all my grain.

We should be very glad to have from some of our readers whose experience will justify it, information in answer to our correspondent's inquiries as to clover seed.

As to the wheat, with our present lights, fifty bushels to the acre is only obtained under a peculiarly favorable combination of circumstances, both in soil and season. If our correspondent can make 25 bushels to the acre without Guano, we advise him to let the Guano alone. Twenty-five bushels is a paying crop, and he had better rely upon his own resources, the growth of grasses, and feeding of stock upon his land for a gradual but sure increase of fertility, than spend any amount of money in fertilizers of whose action there may be much uncertainty.—ED.

The Value of Cotton Seed as a Fertilizer.

There is great wisdom in husbanding home resources for fertilizing our lands and increasing our crops. The seed of cotton has especial value as a fertilizer, and while we know that with many it is properly appreciated and cared for, there are others, beginners especially, who will profit by the useful suggestions following, which we copy from our excellent exchange, *The Cotton Planter and Soil of the South*:

In this connection, manuring, we cannot too strongly urge upon you the importance of husbanding your cotton seed, as the very best manure you have or can procure. Cotton seed are regarded by the planting interest of the country as a very inconsiderable matter, a kind of five to ten or fifty cents per bushel affair! But the American Cotton Planter has again and again told you differently, and the Cotton Planter and Soil reiterates the fact again this January, that cotton seed are just as well worth one to two cents per lb. for manure as guano is two to three cents per lb. This is a question of the first importance to the cotton planters of the country, and we intend to urge it fully, as we desire the subject fully understood.

In the first place, the cotton States produce, say, in round numbers, 4,000,000 bales of cotton, weighing 450 lbs. per bale. For each of these bales it requires 1700 lbs. of seed cotton, which left at the gin 1200 lbs. of seed, or 35 bushels—which sums up the enormous amount of 5,000,000,000 lbs.—2,500,000 tons! (contrast, if you please, this enormous annual production of manure, the offal of your valuable cotton, at home just where you need it, with the guano of Peru) or 150,000,000 bushels! of a fertilizer that is amply sufficient to reproduce 4,000,000 more bales of cotton. Yes, remember it, reader, that we tell you that the seed from a bale of cotton, or 35 bushels, properly applied to an acre of land, will reproduce another bale of cotton. Is this nothing? The Boston Yankees, who can no longer impose upon you *wooden nutmegs and the like*! have lately discovered that your cotton seed are worth 15 cents per bushel delivered at their cotton seed oil factories for making oil. Oil, ah! the fat of the land! did you ever think of that? "Yes, yes, Southern gentlemen, this is a small matter, too small a matter entirely for your chivalry! but we will take your cotton seed at 15 cents per bushel! though we must have for the oil \$1.25 per gallon?" The planter who sells his cotton seed for less than 35 cents per bushel cheats himself, and will soon impoverish his land. We would not touch it for ours. Cotton seed makes the best manure we have, and properly applied, none more certain. We say best, because they contain the very elements of the crops you cultivate.

Now for the assertion that, when properly applied, there is no fertilizer more certainly remunerating. First, they are *not properly* applied when thrown out as ginned, to lie exposed to the weather, rains and wind, and rot, as is common over the country! They are *not properly* applied when thrown in or on the hill in handfuls! They

are not *properly* applied in any way which does not allow the planter to obtain for his crops all the fertilizing elements they possess! How, then, says the reader, may we apply them properly and get all the benefit from them they so richly promise? First, keep them under cover carefully as you gin them, and apply them to your soil *early, and in their green or live state*. Second, haul them out on your land, *horizontalized*, during this month, or early in February at furthest—allowing 35 bushels to the acre, quite enough—and then run off your rows *horizontally*, and in that furrow run a subsoil plow, drawn by two good mules; then let your hands, enough to do the work, sow your cotton seed in these furrows, seven or eight times as thick as seed are generally sown for planting. List two furrows on this with a small shovel plow, to break the land *close and good*; then run around this list or ridge each row, with a turn plow, and let it so remain till planting time for either corn or cotton. You have now in this ridge, regularly distributed along the row, the very elements of a good crop, to decay just where you need it, neither to be evaporated by the sun's rays nor leached out by the rains, but, to remain there *leavening* up the soil, light and rich, preparatory for the seed at planting time and the growing crop. At planting time you run around the bed two other turn furrows, and you have the bed ready for the drill and the seed. Thus properly applied, you lose nothing in labor, evaporation or leaching; your young crop of either corn or cotton gets the food, this rich \$1.25 per gallon oil! just as it needs it—neither too rapidly when raining or too fiery when dry, but just as your horse or pig receives his food from day to day to healthy growth and fattening.

Now this is all plain enough—every planter can understand it—and every one can have it done, and every one in this way may certainly realize an increased production in corn or cotton of 30 cents per bushel for his cotton seed, and his land left in better condition for the next crop.

Tricks of the Wine Trade.

The United States are represented to be the largest consumers of Champagne in the world, and the consumption per annum is estimated to be one million baskets. The whole Champagne district is about twenty thousand acres, and the amount of wine manufactured for exportation is ten million bottles, or about eight hundred thousand baskets. Of this, Russia consumes 160,000, Great Britain and her possessions 165,000, France, 162,000, Germany 146,000, and the United States 220,000. The Custom House in New York, through which passes a large amount of the Champagne imported into this country, reports 175,028 baskets per annum. Seven hundred and eighty thousand baskets, therefore, of the wine drank in this country for imported Champagne, is counterfeit—an amount equal to the whole supply of the Champagne district for the world.—*Phil. Pennyvanian*.

There would be plenty of candidates for heaven, and successful ones, too, if it could be won by a few great acts or daring adventure.

The American Farmer.

Baltimore, March 1, 1860.

TERMS OF THE AMERICAN FARMER.

Per Annum, \$1 in advance—6 copies for \$5—13 copies for \$10—30 copies for \$20.

ADVERTISEMENTS.—For 1 square of 8 lines, for each insertion, \$1—1 square per annum, \$10—larger advertisements in proportion—for a page, \$100 per annum; a single insertion, \$15, and \$12.50 for each subsequent insertion, not exceeding five—payable quarterly in advance.

WORTHINGTON & LEWIS,

Publishers of the "American Farmer,"
CARROLL HALL, S. E. Corner Baltimore and
Calvert streets, Baltimore.

Ground Bones.

We found it impossible, during the past season, to fill the orders we had for ground bones with such an article as we thought we could safely recommend. We are pleased to say now that in future we are sure of a sufficient supply to answer any probable demand, of an entirely reliable character. We will fill all orders promptly, and can have the bones ground to any desirable degree of fineness.

We are obliged to Richard Colvin, Esq., for cuttings of the "Delaware Grape." Mr. Colvin says: "You may rely upon their being genuine, as they are from the original vine first transplanted near Delaware, Ohio, by my father, about 20 years ago. Mr. Thomson and Mr. Campbell, of Delaware, Ohio, procured their vines from the one above referred to."

There has been much difference of opinion as to the quality of the Delaware Grape, owing to their being two grapes, of different quality, called by the same name. The genuine Delaware is of unquestionable value.

New American Cyclopædia.—We have from the Messrs. Appleton, Vol. VIII of the *New American Cyclopædia*, running from article "Fugger" to article "Haynan," both inclusive. This volume sustains well the reputation of the work as "a popular Dictionary of General Knowledge." We find among the contributors writers of the highest order. Mr. Everett furnishes the article "Hallam," and William Gilmore Simms, of S. C. the articles "Christopher Gadsden," "James Gadsden" and "Gov. James Hamilton." Sam'l Tyler, Esq., of Frederick, Md., contributes the article "Sir William Hamilton."

Draining.

The subject of deepening and underdraining the soil is gradually but surely taking hold of the agricultural mind. The underdraining of up-lands belongs especially to the system of high farming, to which our agriculture is slowly tending. It is a costly improvement, and on that account will not extend itself rapidly, but is highly satisfactory to those who have tried it. In proportion as the increasing price of land makes high culture a necessity, underdraining will commend itself more and more. In Edgecombe county, North Carolina, where the cotton culture has increased so rapidly of late, one planter has put down a hundred thousand tile in his cotton fields. The thorough drainage is considered essential to ensure a sufficient length of season to mature the cotton crop in that State.

We learn by a circular from the Patent Office, that there will be no distribution of seeds from the Agricultural Rooms, owing to the appropriation having been absorbed in the necessary expenditure for propagating Tea plants, of which 30,000 are now ready for distribution. There are also 12,000 foreign and domestic grape vines, and 900 rooted seedless pomegranate cuttings, and various foreign, medicinal and ornamental plants.

We have, from Wm. Stavelly, Esq., President of the Bucks County Agricultural Society, a full report of the proceedings of the annual meeting of said Society, from which we are glad to learn of its continued prosperity and that it now owns enclosed grounds containing more than ten acres of land. The officers for the current year are: Wm. Stavelly, President; Adrian Cornell, Vice-President; John S. Brown, Recording Secretary; E. G. Harrison, Corresponding Secretary; Jacob Eastburn, Treasurer.

IRRIGATION.—We ask attention to the communication of Mr. Faul, a gentleman highly commended to us as a thoroughly trained and accomplished engineer. The subject of irrigation is well worthy the attention of our land improvers.

We have received from Messrs. Rogers & Curley, wholesale druggists, No. 2 South Howard street, a package of McDougal's Patent Disinfecting Powder, represented as a very cheap and effective deodorising agent, which may prove valuable in the preparation of manures, as well as for other purposes. We shall give it a trial.

The State Agricultural Society.

When we closed up the matter for our last month's issue, the House of Delegates, as we then announced, had by a large vote rejected the bill making an appropriation of five thousand dollars to the State Agricultural Society, and five hundred dollars, annually hereafter. The bill was afterwards called up, reconsidered, passed the House and the Senate, and is now a law.

We should certainly not have said a word while this bill was pending, that could prejudice it in the eyes of the Legislature. There were many strong reasons for the appropriation. That a Society which has unquestionably done much service to the agriculture of the State, should have sunk dishonored under a load of debt, was a thing to be lamented by every friend of agriculture. Nor is the sum of five hundred dollars, annually, a matter that the Legislature could well hesitate to entrust to an association of gentlemen, professing to have in charge the general agricultural interests of the State. We honor the liberality of those who voted the appropriation, but we shall treat with entire respect the motives and opinions of those who thought proper to oppose it. Instead of a threat to punish them, which an officer of the society proposes, by publishing their names, we think it vastly wiser to analyse all the circumstances attending the passage of the bill, to treat those who opposed it, as acting legitimately upon their responsibility as Representatives, and to learn a lesson of prudence and wisdom for future guidance.

In the first place we find this bill rejected in the House of Delegates, after what seemed to be due consideration, by a very large vote—twenty-two or three votes only in its favor, as we find in the reports of the daily papers. The bill is reconsidered however, “the Eastern shore Delegates, generally, voting against taking it up, and the Baltimore Delegates all in favor of it,” as a report from Annapolis now before us states, and was passed finally by a vote of thirty-eight in the affirmative, being precisely the number of votes required. Leaving out of view the remark of a member that “the ‘lobby’ had engineered this bill through,” and presuming the ten votes from Baltimore city and five from Baltimore county to have been influenced in a measure by local feeling and interest, we have of some sixty remaining Delegates, representing the agricultural interest of the State, but twenty-three who voted for the bill.

Looking to the vote in the Senate, we find that the bill obtained, finally, thirteen votes, of which, two were the Senators from Baltimore city and

county, having a local interest in the society, without whom, the bill was lost; one, the Senator from Alleghany, a lawyer, whose constituents have never furnished, we think, but one member to the State Society through all its existence; the Senators from Talbot and Dorchester, both lawyers; the Senator from Anne Arundel, not a farmer, and seven others whom we suppose to be farmers. It was vigorously opposed by Mr. Miles, a farmer and planter of St. Mary's county, by “the farmer of Linganore,” Col. Kimmel, representing the county in which the society held its last exhibition, and the largest agricultural interest in the State; by Mr. Watkins, Chairman of the Committee on Agriculture, and other Senators, all strictly representatives of farming and planting districts.

It is folly to say that such men as these are not the friends of agricultural improvement, or that they want liberality, or the intelligence to comprehend the relation which this society holds to the agriculture of the State—and the question then presents itself, how is it that in a Legislature composed of nearly a hundred members, leaving out such as may be supposed to be affected by local interest, only about thirty could be brought to the support of this measure, even by the help of “engineering.” As one of the commissioners to get the charter of the Agricultural College some years ago, with an annual appropriation of six thousand dollars, we experienced with the Legislature no such want of appreciation of agricultural interests as this vote might be supposed to indicate. With much opportunity of observation, we have never known a measure of importance which had so little difficulty in passing through the Legislature as that, and which passed so strictly on its own merits and without the help of “engineering” or “log rolling.”

We ask the question, now, as friends of the society, earnestly desiring to see it occupy a position which would command the cheerful and ready support of every farmer in the State, why is it that this appropriation has been so grudgingly bestowed?

The answer is that the Society has failed, for some reason, to impress the intelligent agricultural community of the State generally, with a sense of its value as a means of advancing their interests. They do not see or feel that it is exercising any such influence, as they suppose they have reason to expect from it. A little reflection will show us why this is so. For some years past the whole end and purpose of the Society has been the getting up an annual exhibition of stock. That these exhibitions have been very creditable, can-

not be denied; that they are useful, will not be questioned. But all the great purposes of an association of the Farmers of the State, seem to have been overlooked, and a "Cattle Show," which should be only one of the means to the higher objects of the Society, has become its great and only object. Stock growing is not a paramount interest, though it is an important one, in the agriculture of the State. And when the Society approaches the representatives of the grain and tobacco growing counties with a demand for an appropriation to pay debts incurred in holding cattle shows, we are more surprised at the liberality of those who voted for, than the objections of those who voted against the bill.

For the great grain and tobacco growing interests, and for the general interests of agriculture, what has the Society done within the few years past, or what does it promise in the future? What question of legislative policy or of practical concern has been entertained by it? At this very time, when most important measures are before the Legislature—the free negro question, affecting vitally the agricultural labour of the State; the grain inspection law, bearing so materially upon the interests of every tide-water farmer; the subject of frauds in the manufacture of fertilizers; the great subject of scientific education in the Agricultural College—on these and kindred subjects, in which an association representing the farmers of the State should be able to give direction to its legislation, the Society raises not its finger, opens not its mouth, but approaches the Legislature only as a suppliant for means to pay its debts, and to enable it to hold another "cattle show." We ask the high-toned gentlemen of Maryland, who allow their names to be used as officers of the Society, whether its position is such as satisfies their sense of the important duties of such an association?

The State Chemist's Report.

We are indebted to Philip T. Tyson, Esq., State Agricultural Chemist, for a printed copy of his first report, which, owing to the delay in printing, has been received, however, at too late a day to enable us to speak of it from a very careful examination. The report embraces a large range of subjects interesting to agriculturists: The constituents of plants, chemical composition of their ashes; causes of the exhaustion of soils; improvement of soils, lime, marl, guano, bones, marsh muck and peat, ashes, gypsum, night soil, barnyard manure, artificial fertilizers, &c., with an appendix on the mineral resources of the State. These various topics are treated, so far as we can

judge from a partial examination, in a manner to commend the report to the practical farmer, not familiar with scientific terms, and affords a compendium of useful scientific and practical matter which cannot fail to be valuable and to render the labors and services of the State Agricultural Chemist acceptable to the farmers of the State. We regret that the preoccupation of our pages has compelled us to defer, with much other matter prepared for this number, a valuable extract from the report on the preparation of bones.

Peach Blow Potatoes.

A subscriber whose letter was received too late for insertion, thinks we have done the Peach Blow Potato injustice in a remark we made last month as to its quality, and that we have probably not made trial of the genuine article. He proposes to send us some of his raising, of the quality of which he speaks in very high terms, for trial. We shall be pleased to try them, and make as favorable a report as they deserve.

While we are not willing to commend new things because they are new, we have no prejudice to overcome against intrinsic merit. We were kindly presented with seed of the Peach Blow last year by a gentleman who, we had no doubt, had taken the requisite pains to get the genuine potato. Comparison was made with the Foxite and Mercer, all being raised upon our own grounds, and under about the same circumstances. We considered it decidedly inferior in quality to either of these, though much more productive. Our correspondent's new land on which he raised his crop, favored very much the quality of his potatoes, and with all sorts, a new light and dry soil, though less productive, improves the quality.

A correspondent in Howard county, whose letter we should have been pleased to publish had it been received earlier, makes inquiry with reference to "felspar in its natural condition of solid rock, on which caustic lime could of course have but little effect," and wishes to know "the best mode of disintegrating the rock or rendering it so comminuted that the lime may have free action." "Will any degree of heat alone or with lime, in kilns or otherwise, render it like limestone friable on exposure to atmospheric influence or water? or will it be necessary to grind or crush it after it has been burnt? or will it answer to grind or crush it without the application of heat? So far as I have experimented on it with heat and water, I have not been able to make it crumble, though it would break into fragments of large size."

The object of our correspondent is to get at the potash contained in the felspar, which is so valuable an element of fertile soils. We are not informed of any method which has been successfully applied to the purpose. Can any of our readers give us the information wanted?

—The communication of M. T. Goldsborough, Esq. will attract, as it well deserves, the notice of wheat growers everywhere. Extraordinary as the crop is, as reported, he says, in a private note: "I observe, in reading my article over, that I made no reference to the fact that the season was any other than a good one for yield of grain—our wheat generally falling short of fair and reasonable expectation from one-fourth to a third." "By way of comment," he says further, "much might be said *pro* and *con* upon the three field system for grain culture upon heavy fertile soils—upon the use of unfermented manure, and the efficacy of heavy stocking as conducive to grain products—probable benefit of phosphate of lime in giving fertility to the farm on which this crop was grown—advantage of compact seed bed. It will be observed that at the time it was ploughed, the clover was succulent, had no woody fibre, and that the mechanical condition of the soil was the opposite to Mr. Hewlett's, with his heavy pea fallow ploughed deep at a late period." (It should be remarked, as to this, that Mr. Hewlett aims always to make as compact a bed as possible under the circumstances, with a heavy drag and roller.—*Ed.*) Mr. Goldsborough suggests further, as to distance of drills—whether maximum crops can be made with drills 9 inches apart? as to depreciation by carelessness in preparing seed, &c. We hope he will do us the favour to pursue the important subject on these points, and that other gentlemen will give us the benefit of their observation and reflection.

BASKET WILLOW.—A correspondent wishes information about the willow. We cannot in this number give him the full information he desires. The best varieties for cultivation are the true osier, *Salix viminalis*, and the basket osier, *Salix flexa*. We do not know where cuttings can be had in quantity, but they should be put down this month. They grow very readily from cuttings in any moist ground, and besides their value for baskets are very useful in gardens and on fruit farms, in tying up vines of all sorts.

Making Winter Butter.

Though somewhat late in the season to talk about winter butter, we have some good hints in the Connecticut *Homestead*, which will keep till next winter and may be put in practice for a month or so now by way of testing them.

1st. None but good cows should be used. For

butter, let it be said, too, that a good cow is not necessarily a very large milker. Rich milk is what is wanted for good butter.

2d. As to housing, &c. Cows should unquestionably be stabled during all severe and unpleasant weather, except so far as may be necessary for a moderate degree of healthful exercise.—Make your cow comfortable. Protect her from cold winds and cold rains. Let her stable be warm, though properly ventilated. She must have fresh air to breathe, but it must not blow on her in a draft as she stands or lies. She must have a good bed of dry straw or leaves. Cow stables, as well as horse stables, should have plenty of light. On feeding and other points we quote the *Homestead* at large. It says:

"Milk-giving cows should be cooked or partly cooked food. This may be of various kinds—hay, corn fodder, roots, grain, pumpkins, oil-meal cake, etc. The coarse materials should be made fine, and are cooked most economically by steaming. The apparatus need not be expensive or cost much time in its daily use. The saving of food will compensate, twice told, all the expense of fuel and the extra time required, and pay besides a good interest on the first cost of the apparatus. Then, for the principal profit of this system of feeding we are to look into the brimming pails that suggest the high days of June, and go far to decide against the practice of pasturing cows at any season. This may seem extravagant, but we have seen it tried, and know of farmers in this and other States, who will make even stronger statements in its favor. We have conversed with some of them, and regret not having taken down the exact increase in amount of milk which they reported. On this point we especially desire to hear from those who have had experience. The use of long hay in connection with other food is not objectionable, and yet it is a question if it may not be profitably dispensed with where steaming is practiced at all.

3d. Scalding the milk when the thermometer indicates a temperature as low as the freezing point (and if it is some warmer it will do no harm) is generally practised by good butter makers. The pans into which the milk is strained may be either placed directly on the stove, or the milk may be strained into a large pan with a double bottom, so that the milk shall be heated by the boiling water in the intervening space. The degree of heat to which it is best to raise the milk is not far from eighty degrees. It should be stirred while heating, and then placed upon the shelves, in a room with the temperature at about sixty degrees. In from twenty to twenty-four hours the cream is ready to be taken off, and should be kept in stone jars in a rather cooler place than the milk room, until ready to be churned, when it should again be brought to about sixty degrees. If all the conditions are favorable, the butter will come in from twenty to thirty minutes steady churning. It is not advisable to have it come in less time.

4th. In all these operations perfect cleanliness is, of course, indispensable. Butter-making ought not to be attempted where anything else is going on. It should have its own sphere, and be kept in it, and where this is done, and a course pursued such as we have pointed out, there need be no want of success in the manufacture of winter butter."

Irish Potatoes—A New Variety.

To the Editor of the American Farmer:

Sir: About the first of June, 1858, I received twenty pounds of Irish potatoes from the Pacific coast, at a cost of \$20.25, freight and charges—they were procured there for me in their normal state, by Dr. Ashe, of California, whose judgment and integrity may be relied on. From the twenty pounds (forty-two tubers) I raised eleven bushels (two hundred and seventy-eight bushels per acre)—not the slightest appearance of disease. April 1st, 1859, I planted them in rows three feet apart; cut pieces about half-an-ounce each; sets eighteen inches apart in the rows or furrows; covered with a plough; cultivated as usual; dug the first of October—product three hundred and fifteen bushels per acre. The anatomical structure is different from any variety I have tried. The coats enclosing the water, and the starch meal are thick and pliable. There is but one germ to an "eye" and that germ is at least four times as large as the germ in a *mercer* potato—it is protected by two skins or coats. The starch is different in quality and in quantity; the pigment is moist and adhesive; the roots are more in number and much larger; they strike into the earth two feet or more; there comes up but one vine from an "eye," as it appears above ground, it is as thick as a pipe stem; it is hard and strong, grows four to five feet long, and branches like a tomato vine. The leaves are very large, thick and have a stiff beard; they will mature with less rain, and stand more hot sun than any other kind I have tried.

How they will stand a wet season; how the cut surface of the seed can resist inoculation by the juice of strong manure; how artificial culture may affect the quality; how they may withstand all the different diseases to which they are liable in an abnormal state, I do not venture an opinion. As I am conducting a series of experiments, I wish them to get into the hands of careful farmers. Hon. Mr. Clemson, of the Patent office, has very kindly offered to show a sample and assist distant farmers to get them. Ben. Perley Poore, Esq., Secretary of the United States Agricultural Society, 356 Pennsylvania avenue, Washington city, D. C., shows me the same kindness. Yours, &c.,

JOEL BLEW.

Laurel, P. O. Prince George's Co., Md.

We shall take pleasure in aiding Mr. Blew in the distribution of this potato, and refer the reader to his advertisement. We have been shown letters from several gentlemen, very competent judges we should think, who speak in highest terms of the quality of this potato. Mr. Blew is a most indefatigable and careful experimenter, and for a number of years has made the potato a speciality in the hope of getting new varieties, of good quality, and at the same time, more productive than such as are now known to be good potatoes. We hope to find that his efforts are crowned with success in the California potato.—Ed.

Inspection and Measuring of Grain.

The following is a copy of a bill designed to meet the defects of the measure of the last session of the Legislature, for the inspection of grain. We learn that this bill has been prepared with much care after consultation among gentlemen representing the interests of both buyer and seller, and is quite acceptable to both. It will, therefore, we presume, become a law—and while no fair dealing purchaser can find fault with it, it will afford efficient protection to the grain grower.

A BILL ENTITLED, An Act to repeal Sections Three Hundred and Fifty-Two, Three Hundred and Fifty-Three, Three Hundred and Fifty-Five, Three Hundred and Sixty, Three Hundred and Sixty-Two, Three Hundred and Sixty-Nine, Article Fourth, of the Code of Public Local Laws, and substitute and add the following:

SECTION 1. *And be it enacted*, That in the event of any controversy arising between any buyer and seller in relation to the quality of any grain or in relation to a difference between any sample and the bulk of any grain, or between the sample by which the sale was made, and which was exhibited on 'Change, and the sample in the hand of the inspectors; either party may apply to the Inspector General, who shall forthwith notify the opposite party, and each party shall thereupon nominate to the said Inspector General, an individual to act as referee or arbitrator, and the Inspector General shall thereupon appoint a convenient place for the meeting of said referees or arbitrators, and a time during the same or the next following day, and the said referees or one of them if the other should not attend, together with the Inspector General, or one of the assistant inspectors to be named by him for that purpose, shall hear the allegations and proofs of the parties, and compare the samples with each other or with the bulk, as the case may be, and decide thereupon according to equity and justice, and whether the buyer or seller shall be released from the contract, and the decision of any two of the said referees shall be final.

SEC. 2. *And be it enacted*, That if either of the parties shall refuse or neglect to name a referee, then the Inspector General shall name an individual to act as one of the referees in the same manner as if named by the party; and if either party, buyer or seller, shall refuse to comply with the terms of such decision, the party aggrieved may recover in a suit at law, double the damages he may prove he has sustained by such refusal, or in the event of the purchaser refusing or neglecting to comply with the terms of sale after the decision of the arbitrators, the owner or his agent may either retain the grain and sue for damages, or may resell the same and then sue for the difference in price between the first and last sale, and for the delay and detention, and recover in either case double the amount of damage that shall be proven to have been sustained.

SEC. 3. *And be it enacted*, That where a sale of grain is made by a sample exhibited at the Corn Exchange it shall be the privilege of the buyer to require the sample exhibited to be compared with

the sample in the possession of the inspector, and for that purpose the Inspector General or one of his assistants, shall on demand of either of the parties, forthwith produce such sample to be compared with the sample by which the grain was sold; and if the buyer and seller shall differ in relation to the conformity of the two samples, then arbitrators or referees shall be named, and proceed to decide as is provided for in the preceding section, and if they decide that the sample by which the sale was made is of better quality than the inspectors sample, then the purchaser may decline to take the grain and abandon the contract, provided, however, that such comparison of samples shall be made as soon as practicable, not later than before the expiration of exchange hours or before twelve o'clock, meridian of the same day, and that the sample by which the sale was made shall not be removed until the comparison is made, and in the event of a disagreement between the buyer and seller, the inspector shall carefully preserve both samples, to be produced before the referees; and provided, that this section shall apply only to sales made at the exchange, by samples there exhibited during regular exchange hours, and not to sales made elsewhere.

Sec. 4. No inspector shall weigh or inspect any grain after it has been once sold and delivered on its arrival in said city, unless the parties to such resale or some of them shall require it, and if required, the inspectors shall proceed as in all other cases, nor shall any inspector, during his continuance in office, buy or sell, either directly or indirectly, or receive any grain by way of barter, loan, or exchange, or in any way intermeddle with or busy himself in procuring to be sold or consigned to any merchant, or in loading any ship or vessel with grain, except the proper grain that may have been grown by said inspector, under the penalty of two dollars for every bushel so bought or sold, and upon conviction for the offence he shall be dismissed from his office.

Sec. 5. *And be it enacted*, That all persons selling grain, shall, under the penalty of twenty dollars for each omission, to be recovered before a justice of the peace in the city of Baltimore, as small debts are recovered, and in the name of the Inspector General shall give to the Inspector General an accurate account, in writing, of all grain sold by them, designating the kinds, quantity, price, and purchasers' names, which said reports or an abstract or table to be made therefrom, shall be recorded in the book of the said Inspector General, subject to the inspection of any one, deeming himself interested, which said fines shall be paid into the treasury of the State.

Sec. 6. *And be it enacted*, That in weighing grain sold, it shall not be necessary to measure sixty bushels of wheat, or one hundred bushels of other grain, before taking a draft for weighing; but it shall be the privilege of either party, at any stage of the delivery of the grain, to require that any intermediate draft shall be weighed, and if each party shall have caused an intermediate draft to be weighed, the average of the two drafts shall be taken as the accurate weight of the said sixty or hundred bushels, as the case may be, and the said inspector shall also carefully weigh one bushel of wheat in every sixty

bushels, and one bushel in every hundred bushels of rye or corn, for the purpose of ascertaining the average weight of the cargo or parcel of grain.

Sec. 7. *And be it enacted*, That each inspector appointed under the provisions of the said act shall make a daily return as far as practicable to the Inspector General, of the number of bushels of grain inspected by him, and the said Inspector General shall make an entry of the same in a bound book, containing the number of bushels inspected for each person, and the said Inspector General shall charge and receive for the inspection and weighing and measuring of wheat, corn and rye, one-half cent per bushel in the entire cargo or lot, one-half to be paid by the purchaser and the other half by the seller, and the Inspector General shall make a monthly return on the first Monday of every month to the Comptroller of the State, in writing and figures, verified by affidavit of the number of bushels of grain inspected, distinguishing each kind and the entire amount thereof, at the times aforesaid, into the treasury of the State according to law, and as other moneys due the State are now paid, and the Treasurer of the State, upon the warrant of the Comptroller, shall allow and pay over to the Inspector General and each of the other inspectors one-quarter of a cent per bushel on all the said grain so inspected, weighed and paid for, into the treasury as aforesaid, provided the same shall not amount to more than twenty-five hundred dollars in the aggregate in any one year for the Inspector General, and the sum of two thousand dollars for each other inspector, it being the intention of this act not to pay said officers, in gross, more than twenty-five hundred dollars to the Inspector General and two thousand dollars to each assistant, and the balance remaining in the treasury shall be the balance after paying the annual salaries of the Inspector General and inspectors and charges of their office.

Sec. 8. *And be it enacted*, That in case of a refusal of the purchaser to accept grain after the decision of the said arbitrators, the double damages referred to in section second may be recovered before a justice of the peace, the Court of Common Pleas, or the Superior Court of Baltimore city, according as the amount sued for may correspond with their jurisdiction, that the said suits shall be heard and tried within five days after such refusal, before a justice of the peace, and at the first term of the said courts, unless the parties to such resale or some of them, shall require it, and if required, the inspector shall proceed as in all other cases.

Sec. 9. *And be it enacted*, That whatever cargoes or lots of grain belonging to different shippers or of different qualities shall be sold by the agent or commission merchant, for one or an average price, that it shall be his duty, under a penalty of fifty dollars, to be recovered and applied as the recoveries and applications of the fines hereinbefore are provided for, to call on the Inspector General, or in the event of his absence from the city or inability to perform the duty, on one of the assistant inspectors, whose duty it shall be to apportion or distribute the price among the several parcels, according to justice and equity.

Sec. 10. *And be it enacted*, That the term "grain" used in this article shall be construed

to mean wheat, corn and rye, and that the standard weight of wheat shall be sixty pounds to the bushel, of corn fifty-six pounds to the bushel, of rye fifty-six pounds to the bushel, and in all contracts hereafter made, a bushel of either of these articles shall be determined by the said weights respectively, unless the parties to any such contract shall otherwise expressly stipulate.

Sec. 11. *And be it enacted*, That if any grain inspected and weighed or measured, as aforesaid, shall be delivered to the purchaser thereof, and such purchaser shall thereupon refuse or neglect forthwith to pay for the same according to the terms of said sale, the person to whom the grain had belonged, or any agent of his, may sue out a writ of replevin, and seize the grain so sold, or any other grain found in the possession of such purchaser, and after one day's notice, to be published in one of the newspapers in the city of Baltimore, may sell the same for cash at public sale and receive the profits thereof, and if such sale does not produce the amount of the purchase money due on the original sale, with ten per centum added thereto and the costs attending the seizure and sale, the original purchaser shall be liable for any balance, to be recovered as any other debt, and the price agreed to be paid for such grain shall be a lien on the same, into whose hands or possession the same may come, and the commission merchant or other agent of the former owner or owners may have such replevin in the name of such commission merchant or other agent, and conduct the proceeding for the owner or owners, if more than one, and such purchaser, so refusing or neglecting to pay shall also on conviction thereof in the Criminal Court of the city of Baltimore, be subject to a fine not less than one hundred dollars.

Sec. 12. *And be it enacted*, That this act shall take effect from its passage.

Hampshire Bacon.

EDS. GENESEE FARMER:—The following is a method of preparing and curing bacon, with which I have been practically familiar, in Hampshire, England.

Hogs of the most desirable size for bacon, range from one hundred and sixty to two hundred and twenty lbs. The hair is singed off.* The gambrel is not used for suspending the carcass, unless the hams are to be taken out, which is seldom the case; but this is done by means of a double hook inserted in the opening of the gammon or pelvic bones. This method secures flitches of a better shape than when the legs are strained back. The carcasses are cut out on the following day. After removing the head, two incisions are made

down the back, from the neck to the tail, as deep as practicable, one on each side of the center, and about an inch from it. The carcass is turned over, and the ribs and other bones cut through on either side of the spine, and close to it. The flesh is cut so as to meet the incisions previously made. The part thus removed is called the chime. This, however, is not always taken out, but the back-bone should be. For this purpose, but one incision is made down the back, and that one in the center. The bones on the inside are cut in the same manner as stated above, and the flesh is cut close to the bone, on either side, through to the one incision. The spare-rib including the first four or five ribs, with a slice from the shoulder, is taken off. A slice from the gammon, including the first bone to the joint, the tender-loin, and about two inches, from the ends next to the spine, of the remaining ribs, with a part of the lean meat attached, are taken off. A strip, two or three inches wide, along the lower side of the flitch, and quite through it, is cut away. The legs are cut off; the blade-bone is taken out, and the ribs nearly sawed through the middle, and beat back so as to make the flitch as flat and even as possible. It is then ready for curing.

A small quantity of salt is sprinkled over it, and it is allowed to remain till the following day, when the saltpetre, finely pounded, is applied at the rate of half-a-pound to the flitches of a hog weighing two hundred pounds. A liberal quantity of salt is sprinkled over the surface and the parts where the legs were taken off, and the flitches are stacked up, twenty or more in a pile, to any convenient height, and any number of piles. In two days from this time it is shifted. The top flitch, after thoroughly rubbing the remaining salt into every part, is put at the bottom in another place, and a fresh quantity of salt applied. The next flitch is removed, being treated in the same manner—and so on through the pile, the one previously at the bottom being now at the top. The next pile is shifted to the place occupied by the first, and managed in the same way, and so on for any quantity. This process should be repeated once in three days for ten days or two weeks from the first sprinkling of salt, according to the size of the bacon. A fresh supply of salt may not be needed every time; but the rubbing and shifting are necessary. The remaining salt should now be swept clean off, and the bacon removed to the smoke-house. This should be so constructed as to allow the smoke to pass off freely, as the confined, smothering process of smoking gives the meat an unpleasant flavor. From seven to ten days' smoking is sufficient.

The points requiring attention, in order to success, are thorough salting in as short a time as possible, and smoking in a well-ventilated house. In this country, it is not easy to preserve it in good condition, on account of the fly, and its liability to become yellow and rancid. The difficulty, may, in some measure, be overcome, by packing it, when quite dry in dry oats or straw, and keeping it in a cool and dry place. The flesh of some hogs, however, is of such a strong flavor that no process of curing, nor care in preserving, will result in the production of good bacon.

JOHN BRADFIELD.

* This is done by burning with wheat straw. The hog is laid on the belly, with the legs stretched out, and the head from the wind; or on the side, in which case a bunch of straw is placed between the legs. Straw is then shaken lightly over the carcass, say from nine to twelve inches in thickness. The fire is applied at the head, so that the flame is blown from the straw, in order that it may burn more slowly. The head, too, is not so liable to scorch as the gammons. After the straw is all burnt, the ashes are swept off, and a fresh quantity of straw is burned on such parts as are not sufficiently singed. Care must be taken to avoid scorching. After this the carcass is turned, and the process repeated on the other side.

After the hair is all singed off, the hog is cleaned by washing and scraping with a knife.

Mode of Applying Peruvian Guano.

We have from the Agent of the Peruvian Government at Boston, a pamphlet of some fifty pages, on the History, Economy as a Manure, and Modes of Applying Peruvian Guano. For the benefit of many readers of the *Farmer* who may not have become, as yet, familiar with this valuable fertilizer in practice, we copy that part of the treatise on the mode of application, which we find to be, in the main, judicious and practical:

"In the first place, it may be proper to say that guano may be stored for a considerable length of time, without being subject to injury, if kept dry and not opened and exposed to the air. If, therefore, it is found convenient to keep it some time, these conditions should always be strictly observed.

If it is to be applied on the surface and harrowed in, as where it is used for a wheat or any other grain crop, *no preparation whatever is needed except to sift out and pulverize the lumps, when it should be applied immediately and harrowed in without delay. For such we say, most decidedly, never mix anything with it.* If mixed at once with the soil the ammoniacal and volatile parts will be very soon surrounded and absorbed by the particles of the soil. An enormous waste and loss often follow a mixture with any compost containing caustic alkalies, such as ashes, lime or other similar substances. If applied alone the soil will best adapt it for the use of plants.

But if it is to be used as a top-dressing on grass or grains, especially with a probability that dry weather will follow, a somewhat different course is generally preferred. When it is first taken out of the bags, let it be sifted as above to separate the coarser lumps from the finer portions. Have a quantity of loam at hand, say not less than five times the bulk of the guano, to be mixed with it. Let a part of this loam be spread on the barn floor or other convenient place and covered with a thin and regular layer of guano, and another layer of loam and so on, for the purpose of getting as perfect and even a distribution and mixture as possible. These alternate layers, when all is added to the heap, should be shoveled over thoroughly. The addition of loam or some similar absorbent is thought to be important, though rather as a means of diluting it and of enabling the sower to spread it evenly. We are inclined to think it can be sown as uniformly by hand without any mixture as with, and that this labor of composting even for a top-dressing, if it is to be applied at the proper time, may be saved. A larger quantity of dry loam or muck may be used if thought desirable.

The lumps may be pounded up and mixed like the rest, or they may be covered up in a considerable quantity of muck or loam and left for several days in a dry place, when they will become softened and may be mixed with greater ease.

If the farmer has plenty of leisure and adopts this method of composting rather than of applying without any mixture, let the compost, after it has been carefully formed, remain under cover for some days, in a dry place, not exposed to a draft of air, before using it. The whole mass

will thus be penetrated with the strength of the guano and a more even distribution will be practicable. The mixture will be improved if it can lie two or three weeks in this way, or even longer if the air has little access to it.

Select, if possible, a damp showery day to sow it in, especially if the application is to be made broadcast as a top-dressing for grass or grain lands.

For this purpose the time of the application may be in the month of November or on the late snows of March or April, but not later. If it were proposed to apply 300 lbs., which is found by experience to be sufficient on ordinary crops to produce the best results, it would be a very good plan to apply 150 lbs. in November, spread as evenly as possible, and to reserve the remainder till March or early in April, especially if the land is pretty level so that the top-dressing will not be liable to be washed off. A top-dressing is sometimes successfully made as late as May, but the liability to drought is so great that it is not to be recommended if it can be avoided. "Better late than never," may still hold good, but if on a late spring application, no very striking results should follow, do not condemn the guano, but determine the next spring to take time by the forelock.

The rule should be to top-dress grass lands in November, March or April, and to select for it a damp, drizzly day. Of the two we should rather give the preference to the former period, as by it a vigorous growth of root is promoted and the plant feels it early in the spring, and if the weather were all right, we should not think it so important to compost at all.

If applied to arable land, it should be immediately covered with the harrow or otherwise, so as to be mixed with the soil, and if the piece is designed for grain, the application of guano would be best a few days, say a week or ten days before the grain is sown, where it is practicable to do it. It then becomes so thoroughly incorporated with the soil that there is no risk or danger of injury to the tender roots of the plants. If it is designed to sow it on winter wheat or rye, let only half the amount intended to be used be applied in the fall, and reserve the remainder to apply as a top-dressing in March. If too large a quantity is applied to the crop in the fall it might stimulate a too thrifty and tender growth, and render it more liable to winter kill. But the use of a part of it in autumn is important to promote a strong and vigorous growth of root when it will be far less liable to be heaved by the frost. Many a crop might have been saved from being frost thrown by the use of guano.

We say, therefore, prepare the land, sow on 150 lbs. of Peruvian guano, and harrow it in a week before you intend to sow the wheat if it is practicable, that is if the weather is damp, and the land in suitable condition. Guano ought not to be applied, of course, in the midst of a drought when the surface soil might have somewhat the appearance of an ash heap. In such a case, it would be far better to wait till after the crop was fairly up and spread it broadcast in some rainy day as a top-dressing, or even to sow it on, and harrow it in, with the wheat or rye.

If practicable and convenient, however, we prefer the former method of applying it, some

days beforehand. The absorbing power of the soil will hold the volatile parts of the manure ready prepared for the roots of the plants without the addition of loam or any other mixture, and thus a good deal of unnecessary trouble will be saved. The wheat or rye may then be sown and harrowed in, or which is far better, drilled in, with no liability to injury from too close contact with the guano. If, then, it has another dressing of 150 lbs. as a top-dressing on the late snows of March or April, it will produce a better crop than if the full amount were applied at once.

For oats, which are sown in the spring, we have already advised a somewhat less quantity per acre, say, 150 lbs. or 200 lbs., and we would not take the trouble to compost, especially if the guano can be spread and harrowed in a few days before sowing the seed. The guano ought, however, to be sifted as before, and the coarser lumps broken up as finely as possible, otherwise its distribution would not be even and uniform.

And the same may be said of buckwheat, on which, if it were designed for a crop, we should not advise the use of more than 100 lbs., or 150 lbs. per acre. But if we wished to obtain a rich and luxuriant growth of buckwheat or other similar crop to turn under as a green manuring, a considerable larger quantity might be used to great advantage, since the design is to get the largest possible mass of vegetation, and no application will give it so quickly or so cheaply as Peruvian guano. For light, sandy and barren lands, this mode of treatment can hardly be too strongly recommended. Once get them into good heart in this way, and they may be easily kept up and made productive.

Guano may be mixed with perfect safety with charcoal or with muck, or dry meadow mud, with salt, sand or stiff fine loam; but ordinarily, except for top-dressing as indicated above, it is better to use it alone and thereby save considerable labor which is wholly unnecessary and useless. We do not believe it can be spread any more evenly by hand, in a compost than it can by itself alone. And even for a top-dressing it is scarcely necessary to compost it with anything if it is applied in November or in March on the late snows, or in a rainy day. Still there is no particular objection to a mixture with any of the substances indicated above if any one chooses to take that course. But it should never, on any account, be mixed with quick lime or any other strong alkaline substance, nor should it be allowed to come in direct contact with the seed.

We should not recommend its mixture with wood ashes, either leached or unleached, because they always contain more or less alkaline substances, which might set free a part of the ammonia of the guano. Some would not mix it with plaster, because of its liability to form an insoluble compound, the action of which would be slow and proportionally less valuable. But if it is to be immediately applied in the hill, where it will be at once surrounded and mixed with the soil, the objection to the use of ashes would be removed, since the loss which would otherwise follow, would be checked by the absorbing power of the soil. And many use plaster in a mixture of guano with success, but if the land needs plaster and is apparently benefited by it, we think it just as well to apply it by it-

self directly to the crops, and the guano by itself. Fine charcoal or the scrapings of coals, may always be used to advantage mixed with guano, and it will prove a valuable absorbent and retainer of the ammoniacal or volatile part of the guano.

In sowing down to grass in September, we would put in the guano with the harrow the same as for winter wheat, say ten or twelve days before the grass seed was to be sown, or else wait till the seed had come up and then take a rainy day and sow it on as a top-dressing. If we composted the guano with loam for this purpose we should want it to remain in the heap a few days till the whole mass was fully saturated with the guano, using only a part of the full quantity we intended to apply and reserving the balance to be applied on the late spring snows. Guano, though it will destroy the germinative power of seeds placed in too close proximity to it, will not injure growing crops when sown broadcast on them, unless applied in enormous quantities, far greater than any one would think of applying as a manure.

So much for top-dressing either grains or grasses. If now it is proposed to use it in the hill or the drill, on the corn or other crops, it has generally been thought best to mix it thoroughly, as before indicated, with loam, sand or other similar substance to dilute it. If this course is to be pursued, and the soil on which it is to be applied were light and sandy, we should mix the guano, if at all, with stiff loam; if the soil were heavy we would mix it with sand.

It is better and safer, as a general rule, to mix the guano with the surface soil by harrowing it in than to confine it in the hill or the drill.

The impression, which some have, that the effects of guano are not so lasting as other manures in the soil, has arisen chiefly from those cases in which it was put in the hill, and not incorporated with the great body of the soil. A very small quantity applied in holes, say three feet or more apart, has but little chance to become thoroughly mixed with the great mass of the soil. But where it is spread, either the whole or a part of it, and plowed or harrowed in, it becomes diffused and affects and improves the whole soil.

But it is important sometimes, to obtain a quick and thrifty growth of the corn or other crops, and this may be done by putting guano in the hill and so covering it up, or thoroughly mixing it with the soil, that it will not come in contact with the seed. Billings' corn planter will drop it and cover it up an inch or more in depth and drop the corn upon that. But if this is not to be had it may be dropped by hand at the rate of a tablespoonful of guano, or if composted with five or six times its bulk of fine loam, a small handful, which should be covered up with the hoe not less than an inch or an inch and a half deep before dropping the corn upon it.

Many disappointments have occurred in consequence of not covering it deep enough to protect the seed. There is no fear that the roots will not find it soon enough, even if it is more than two inches deep, and the slight covering which it too often gets with the foot is not sufficient. The more it can be mixed and incorporated with the soil the better, and if half of the amount which it is designed to use is spread and harrowed in,

and a smaller quantity, say not over 150 lbs. for corn, placed in the hill, it would doubtless be safer and more satisfactory.

Fruit Growers' Society of Western New York.

"IS THE DWARF PEAR A HUMBUG?"

Mr. PINNEY, of Monroe.—There is one sort which is not a humbug. The *Louise Bonne de Jersey* will bear as much fruit on same size of limb as any other. Has dwarfs, two years old when set, and now eight years old, that are bearing one bushel, one-and-a-half, and even two bushels of pears to the tree. If I set one hundred acres of pears, would set half of them dwarfs of the right sort.

Mr. TOWNSEND, of Niagara.—The *Louise Bonne de Jersey*, taken twenty-five years together, will bear three to one of any other sort I have cultivated as dwarfs. Were I to commence planting pear trees again, I would not plant a standard. Fruit on dwarfs is much larger than on standards; bear earlier. Needs good cultivation.

Mr. JAY, of Yates.—A fruit orchard should be a fruit garden, and that is where most men fail. Trees set in post-holes won't answer.

Mr. COPPOCK, of Erie.—Endorse all that the members have thus far said. *Vicar of Winkfield* succeeds very finely as a dwarf tree. Spading around trees is injurious—cuts off the fibrous roots which are near the surface.

Mr. ELLWANGER, was asked what varieties did not succeed well as dwarfs. Answered—*Beurre Bosc*, *Sheldon*, *Dix*, *Paradise d'Automne* and *Candauqua*. On the other hand *Belle Lucrative* is always poor as a standard, and fine as a dwarf.

Mr. BEADLE, of Canada.—*Belle Lucrative*, as a dwarf, is invariably fine and large.

Mr. FROST, of Monroe.—*Duchesse d'Angouleme* splendid as dwarf. Trees have, years before this, borne two or three bushels per tree, and this year three-and-a-half bushels.

Mr. BROOKS, of Wyoming.—Don't think it is best to send dwarf pear trees out among farmers. Can't by any possibility induce a farmer to run a cultivator through his orchard once in two weeks; no, nor four weeks; no! nor once in two months.

Mr. SMITH.—The gentleman might as well advise not to sell Durham cattle to farmers because fine breeds need care, and fine breeds sometimes fail; yet, when cattle are well treated they do well, and when dwarf pear trees are well treated, they also do well.

Mr. BROOKS.—Farmers make some things prominent. Farmers will use stock well; but fruit trees are a little on one side. Some gentleman has advised that every farmer have dwarf pear trees in his garden—supposing that in the garden they would be well seen to. Now, what we in our country call a garden, is a place back of the house, where dish-water is thrown; where we have a few hills of potatoes, and several hundred—pig-weeds!

Mr. AINSWORTH, of Ontario.—Some time ago, I made remarks against dwarf pears. Have made observations since then, and find that some sorts do remarkably well as dwarfs—better than as standards, both as regards size and flavor of the fruit. *Louise Bonne de Jersey* will yield

double the crop on same amount of space on dwarfs than on standards; so will *Belle Lucrative*.

The whole secret of raising dwarfs is in the cultivation and pruning. Get the right sorts, and then cultivate and prune thoroughly.

In answer to a question as to profit, Mr. ELLWANGER said, that you could cultivate one thousand dwarf pear trees per acre, and if of the right kinds, they will average over a bushel per tree.

Mr. BARRY.—A great feature in dwarf pears is the earliness of bearing. Aged people could plant trees and enjoy the fruit. Easily transplanted, and liable to no more accidents or diseases than the standards.

BEST PROTECTIVE OF FRUIT TREES, ETC.

J. J. THOMAS.—In parts of the country where the winds are high, great benefit is derived from belts of timber, evergreen hedges, etc.

Mr. BARRY.—Our prevailing high winds are from the west, and fruit needs protection in the fall to keep it from being blown off; and the trees need it in winter and spring. As to underdraining, remember that the trees stand all the year round, and in almost any land underdraining will do good. There are plenty of evergreens that will grow three to four feet each year.

Mr. LANGWORTHY thought that board fences, twelve feet high, would be beneficial, and also serve to train grape vines upon.

Mr. BEADLE.—In Canada, farmers are beginning to plant trees on the west sides of their farms. Wheat crop is better for them.

Mr. AINSWORTH.—Ground sloping towards the east, good crops are seldom killed; but sloping to west, wind strikes hard—snow blown off—poor crops. Here is protection, and the contrary.

GRAPES.

Mr. LANGWORTHY spoke of the crops of *Isabellas* which have left Western New York for the eastern markets; and speaking of some of the new varieties, asked if we could not graft on good, substantial branches upon old vines, and get them to bear the first or second year?

Mr. C. P. BISSELL.—Grafting branches upon old vines during the full flow of sap is a difficult operation; but the old practice called inarching, is a safe way of performing the operation, while the vine of the new variety only loses a bud or two, and is in no way injured.

Mr. HOAG, of Niagara, thought pot plants were as good to buy as layers. In spring of 1856, bought twelve slender *Dianas*, which in 1858 bore forty clusters, and 1859 as many more. Set out *Delawares* in spring of 1858, and they did as finely as layers ever could.

Mr. ELLWANGER.—Has grafted the *Diana* in the open ground as well as the apple, just after the plants have made a fair start in the spring; graft upon a level with the surface of the soil. Heap the soil around, covering all but one bud with earth, and they always succeed.

Mr. AINSWORTH.—Plants from the pot have one great advantage over those dug from the ground—that is, all the roots are saved, every fibre, and the plant has no new roots to make—nothing to do but grow. Planted *Delawares* the spring of 1859 from pots, and they grew fifteen feet.

Mr. BISSELL.—In spring of 1859, after sales were over, had over seven hundred *Diana* grape

vines left standing in pots. Turned them all out into the nursery rows without losing one single plant, and some of those vines bore fruit that summer.

Mr. MAXWELL.—Had rather have good one year old plants in pots than stout layers, as layers are usually taken up. Layers have not one-tenth as much root as pot plants—fine, fibrous roots.

Mr. LANGWORTHY.—Wait until the sap has run pretty well in spring, and it is not so very difficult to graft, and have the scion bear in two years. The first *Clinton* grape that came to this county I grafted in that way.

Mr. PECK, of Ontario.—Strongly approves of covering even *Isabella* vines with a little earth each winter. A neighbor, who had one thousand vines set in 1856, and sheltered by woods on west and north, got three thousand pounds for the crop of 1859.

Mr. BEADLE.—Had tried experiments with parallel rows in the vineyard. Those lightly covered with earth were twenty per cent. better crop than those merely laid down, and far better than those left tied up. Plants four feet apart in the row, and rows eight feet apart, and averages fifteen pounds of grapes per vine.

Mr. AINSWORTH.—Neighbors all think it pays to lay down the vines and cover with earth. Should practice pruning on the renewal system.

Mr. BARRY.—Had some vines growing on the end of his house, eastern exposure—*Delaware*, growth remarkably vigorous—fifteen to eighteen feet per vine.

Mr. H. B. MINER.—Never had a ripe *Isabella* or *Catawba* on an open trellis. On south or east side of house both get ripe. *Diana* will ripen finely with me on an open trellis.

Mr. HOAG.—A neighbor ripened his fruit at Lockport, and sold eleven hundred pounds for twenty-two cents per lb. If you want a vine to grow and bear well, you must prune thoroughly.

Here a member opposed the severe pruning, and told about a vine which had been let grow without pruning; one year the frost killed it back to a mere stump, whence it sent up some very thrifty branches, which were not pruned at all, and bore 2500 bunches of grapes.

Mr. THOMAS thought that the gentleman's argument against pruning was the strongest one in its favor he had ever heard. What caused the very thrifty growth and the large crop of fruit? It was the severe pruning which the frost gave to the vine, and all the vine wanted now was another frost.

Mr. BROOKS appealed to farmers to attend more to the culture of the grape; wished the cultivation of all fruit might be extended, and even of—(hesitating,) dwarf pears. (Great laughter.)

COMPARATIVE MERITS, ETC.

Mr. BROOKS.—The time will come when every man—when every holder of land—shall be considered disgraced, if he does not supply his family with such luxuries as we see here before us, (waiving his hand to the seven long tables loaded with pears and apples,) and they are the greatest under Heaven.

Mr. BARRY.—Near market, small fruits are most profitable. At a distance, where fruit must be barreled, apples and pears are better. In Niagara county, the estimated value of the apple

crop of 1859 was \$500,000. Just think of pears, in New York, selling at \$18 and \$20 per barrel. To skillful cultivators, with good soil, all things considered, the pear offers the greatest inducements. The pear crop is uniformly more certain than the apple, and there is hardly a farm crop as sure as the apple. Potato? let the answer. Wheat? it has almost been driven from Western New York. Corn? Oats?

If a pear tree or two dies, just fill up the rows from a reserve which every farmer should have on hand, in a little nursery of his own.

Mr. TOWNSEND.—Western New York will become the home of the pear in the United States, and here it is raised in perfection. Would not recommend a man to plant trees unless he meant to take care of them.

Mr. W. B. SMITH.—Years ago, pears would only bring seventy-five cents or one dollar per bushel. Now, the public taste has been educated to fine fruit, and the same will bring four dollars per bushel. Would not care to plant any but dwarfs.

Mr. HODGE.—The fact is, that half the people of the United States never yet saw a good pear. Now they see and taste such fruit as loads these tables before us, and they are willing to pay for it. Such fruit as we here see can be raised by any one who will cultivate properly and carefully.

Mr. BROOKS spoke of three *Baldwin* apple trees which each year bore six to eight barrels of apples, selling at three dollars per barrel. Each tree yielded a greater net profit than the average acre of land in Wyoming county. If market is glutted, give them to the horses—to the cattle—to the hogs—to the hens; there is nothing that lives, or ought to live, will refuse a good apple.

Mr. AINSWORTH.—The net profits of apple crop will average five times as much per year as a wheat crop. Pears bear regularly every year. You can set one hundred and sixty standard pear trees to the acre, and only forty apple trees. Standards bear as early as apples, and bring four dollars per bushel, while apples only bring about one dollar. Certainly, the pear crop, at present prices and prospect of prices, is six to eight times as profitable per acre as the apple. The great secret of success is good tillage and proper pruning.

Mr. BARRY.—It was folly to suppose that all the land in Western New York was going to be devoted to pear culture. Pears need suitable soil and skillful culture. Not a farm in Western New York of which half was adapted to pear culture. Pear culture will not start up as if by magic; but farmers will one by one go into it as fast as they get the requisite information.

WHAT IS THE BEST MANNER OF PREPARING GROUND FOR ORCHARDS?

Mr. SMITH.—1st. Thorough underdraining, especially if strong soil.

2d. Subsoil at least twenty inches deep.

3d. Make it rich enough to be suitable for corn.

Mr. YEOMANS.—Underdraining is one of the best investments which a man can make before planting his orchard. Before you plant the trees, cut off all the branches. The tree will form new and strong branches, and the wind meanwhile will sway it less. Apples should be pruned so as

to leave no branches lower than five feet from the ground.

Mr. FISH spoke of planting an orchard; part of the trees he cut off the whole top eighteen inches above ground, and the rest only cut off part of the top. Those from which he cut off the entire top made the most rapid growth and the handsomest trees altogether.

Mr. PRICK had tried all the ways of pruning, but never saw trees as fine as Mr. YEOMANS'; fancied Mr. YEOMANS' five feet pruning better than any other plan.

Mr. LANGWORTHY strongly advised against plowing in an orchard. Never plowed among trees but he heard the roots crack. Nothing heavier than a cultivator should be used in stirring the ground.

WHAT IS THE MOST SUITABLE AGE FOR PLANTING FRUIT TREES?

Mr. HODGE.—Peach trees should not be more than one year from the bud, and then the borer is not brought with the trees.

Cherry trees, two years from bud, and four to six feet high.

Dwarf pear, two years from bud. Standard pear, four to six feet high.

Apple, three or four years from graft, about six feet high—not to exceed seven feet high.

Mr. GLENN, of the firm of H. E. HOOKER & Co., was loudly called for, and agreed with Mr. HODGE. With small trees we get all the spongi-oles—all the fibres—all the small roots, which really do the nourishing of the tree.

The Study of Flowers.

The close examination necessary to discover the genus and species of a plant, says an old writer, makes us acquainted with many beauties concealed from general observation, either by their situation or their minuteness. We have not only an endless variety before our eyes, but are continually struck with the purpose and foresight displayed in apparently trifling peculiarities. We are always learning something new; and the knowledge we thus acquire is such as calls forth our admiration and gratitude; and while it gives that conscious power which all acknowledge, more or less, it bestows, awakens a sense of humility, by a comparison, which cannot fail to occur to us, between our own powers and the simplest works of Nature.

Cranberries.

At a recent meeting of the American Institute, the secretary stated that Jesse C. Young showed him a receipt for one hundred and fifty-six dollars, the net result of one-third of an acre of the scrub-oak land of Long Island, cultivated in cranberries. This is the third year. He says: The soil is a sandy loam—the sand quite coarse. We have to sink our wells fifty-seven feet to get water, just where the cranberries grow. The vines were taken from the swamps on the island, where they grow wild. I set my vines in drills, thirty inches apart, and about ten or twelve inches apart in the drills, and kept them clear by hand weeding, using no manure. I set my vines at any time in the fall or spring, when convenient. I am planting them at this time.

[For the American Farmer.]

Birds of New Holland.

VARIATED PIGEON.

The whole of the head, neck, breast and abdomen are gray ash; the head is furnished with a crest of long, slender feathers, which cannot be erected, but always remain in the same position; the feathers of the back wing coverts are ash, reddish tipped; the large wing coverts, brilliant green; the secondaries purplish, white edged; the side of the tail is violet black, white tipped; the beak black and the feet red; twelve inches long. It is a native of the dark forests of New Holland. These forests are the ancient offspring of time and nature, where the blow of the axe has never resounded, where unrestrained vegetation, daily becoming richer from its own products, meets with no obstruction, and which excite still greater interest from consisting exclusively of trees unknown in the civilized world. A mysterious gloom perpetually prevails, a refreshing coolness and a penetrating humidity. Overgrown trees are mouldering down with age, and many vigorous scions springing about them; mosses and parasite lichens cover their trunks, now decomposing by the united action of time and moisture. All the avenues of the forest are obstructed by them, they cross each other in a thousand fashions, forming so many protecting barriers, which oppose the progress of the traveller and multiply the dangers around him; sometimes the slippery and decaying bark yields under his feet, and sinking by his own weight, he is buried amidst the surrounding fragments; sometimes they are heaped together in ramparts of twenty-five or thirty feet in height, or fallen over a bed of torrents, they constitute so many bridges, which the passenger must cross with distrust. But amidst this scene of ravages and disorder, nature universally rears all that is most imposing; everywhere is seen to flourish beautiful mimosas, superb metrosidros and elegant correa.

CEREOPSIS GEESE.

Top of the head black; a stripe of black passes down the back of the neck; side of the neck light buff, running down to the body; cere yellow; plumage slate gray; each feather on the back and shoulders being margined with paler tint; the quills and tail feathers dusky black; bill short, and very thick at the base and arched above; toes black; legs naked up to the body; very little webbed. It breeds freely on confinement and is easily domesticated; has a deep, hoarse clanging, and though a short, yet an inflected voice; they are very jealous of other geese, continually pricking them; their food is entirely vegetable, but mine feed on corn. Like the other aquatic birds, they are often seen flying at very great heights; their cry may be frequently heard when they are too elevated to be visible. Their flight is conducted with great regularity, for they always proceed either in a line abreast or in two lines joining in an angle at the middle. In this order they generally take the lead by turns, the foremost falling back in the rear when tired with cleaving the air, the next in succession occupying its place. In their lofty flights one sounds a long, loud note, a kind of signal. Nothing can be more repulsive than the bleak and

dreary appearance of thousands of miles occupied by the shores of New Holland. The earth is parched, vegetation stunted, and animal life seems incapable of being supported from the universal scarcity of subsistence. Its low and sterile aspect is such, that many conceive the whole has been reclaimed from the sea. The heavens burning pure and cloudless, the waves agitated but by nocturnal gales. Man seems to have fled these ungrateful regions, and the navigator, terrified by dangers incessantly renewed, turns aside his weary eyes from these miserable shores. It was here that Captain Flanders discovered the *Cereopsis*, and took them to the Zoological Gardens of London. By the kindness of Mr. John Giles, of Woodstock, Conn., I obtained a pair of these rare geese.

J. JACOB BOWER.

Shall We Buy The Cattle We Feed?

EDS. CO. GENT.—I thank your Geneva correspondent, John Johnston, for his prompt response to my inquiry on cattle feeding. I thank him also for the valuable instruction he has given in that important branch of farm economy. I find I was correct in my former communication, when I remarked that Mr. Johnston was a much more successful feeder than I was; but I did not expect to be so badly beaten as I now find myself to be.

Last season I sold my four-year-old steers at sixty dollars, and thought I was doing pretty well. This year I have as good, but the price ruling low I could not now get as much for them. Mr. Johnston, at twenty-two to twenty-four months old, by his system, gets from forty-seven to sixty dollars, a gain of two years upon my system of feeding.

This comparison between Mr. Johnston and myself, reminds me of a very pointed and practical illustration of the value of Agricultural Fairs, made in an address before one of our Maryland Societies, some years ago, by Prof. Benjamin Hallowell, late President of the Maryland Agricultural College—a man of wisdom and learning, and devoted to rural life and agricultural improvement. Mr. Hallowell, on the occasion alluded to, was invited to deliver an address before the Agricultural Society in the county in which he resided. Feeling, doubtless, a little ambitious from the position he was to occupy, to have something attractive from his own farm to exhibit, he went among his stock to make his selection; but he found nothing which so completely filled his beau ideal of perfection as his half-blood Merino ram. This ram was forthwith ordered to the Fair, and with the just pride of a farmer, friend Hallowell soon invited his friends to an examination of his beautiful sheep, when to his astonishment and surprise he found his favorite ram, the pride of his flock, completely and overwhelmingly eclipsed by a pair of noble Cotswolds, exhibited by Horatio Trundle, Esq., from another part of the county, the existence of which he, Mr. H., was totally ignorant of. In his address the learned Professor turned this circumstance to very good account. In speaking of the value and importance of Agricultural Fairs, he frankly confessed the pride with which he had entered his aforesaid ram for the prize, which he confidently expected to win until he saw the far

superior sheep exhibited by his friend Trundle—and but for this exhibition, he not only should have remained ignorant that there was such sheep in the county as his friend Trundle had exhibited, but that he should have continued himself under the delusion with which he left home, that he had himself the finest.

Just so it is in raising and feeding cattle; but for the medium of your valuable paper, and the interesting and instructive communication of Mr. Johnston, I should have remained under the delusion that I was doing pretty well in raising and selling four-year-old steers at sixty dollars per head. I now find they can be sold for as much money at two years old, by Mr. Johnston's superior management.

Something, however, is due to difference in circumstances. In a rapid railroad excursion to the North some years ago, I was struck with the beauty, fertility and high state of cultivation of the land bordering on Seneca lake, on which I believe the town of Geneva is situated.

I am afflicted with a larger quantity of old worn-out land (as we describe it in the South) than I can at present bring under the hand of improvement. The only profitable way of using such land, is to appropriate it to pasturage for sheep and young cattle. My practice then is, to winter my calves as Mr. Johnston does—the first winter on clover hay, omitting the meal which he adds to the clover hay—and in the spring turn them on the inferior pasture just described. The second winter they are fed on corn fodder and wheat straw, without grain, and turned again with the sheep on inferior pasture. The third winter fed as the second, and the following spring put on better pasture, which by the fall brings them forward in a condition to be sold as grass-fed beef, or fed two or three barrels of corn, worth from six to nine dollars, and generally sold at a much higher price as stall-fed beef. In this way I bring my four-year-old steers, at a cost of not over nine dollars in grain, to an average of sixty dollars per head. Mr. Johnston, by feeding from fifteen to twenty dollars worth of oil meal or other grain, sells his two-year-old steers for sixty dollars per head. His is, doubtless, nearer the true mercantile principle of turning his capital as rapidly as possible. But my objections heretofore to feeding cattle so young, was a want of maturity, and consequently a disposition to take on and carry to market solid and substantial fat and tallow. Mr. Johnston's system of feeding oil cake, with which I have no experience, will perhaps overcome this objection. He, however, admits that he finds it more profitable to buy three and four-year-old cattle to feed; but what then becomes of his calves? Are they sacrificed to the butcher and epicure? It is against this wasteful and destructive practice that I contend—wasteful, because it destroys in infancy an animal fitted and intended for rapid growth, improvement and maturity—destructive, because it deprives the country of the provision intended by Providence to feed and sustain it. To buy three or four-year-old cattle to fatten, requires an active capital constantly on hand to keep up the supply—and render us dependent on others for what we can ourselves furnish. My plan brings to maturity and full development the tender calf, saves the capital necessary to buy the

three and four-year-old steers, and renders me independent of the fluctuations of the stock market. Mr. Johnston's system requires tact and judgment in buying as well as selling. The system I advocate is better adapted to that large class of farmers who are not so highly gifted in this respect as Mr. Johnston evidently is.

A MARYLAND FARMER,
In Country Gentleman.

My Poultry House—Profits of Poultry.

In a recent number of *The Homestead*, I read with some interest an article on hen-houses.

A few years since I built me a hen-house on a much cheaper plan than the one mentioned in that article, and as a description of it, together with an accurate account of the expenses and profits of the poultry kept therein, may be acceptable to the readers of *The Homestead*, I write this, and hope others may send in their statements to show that, for the capital invested, poultry is the most profitable stock kept on a farm.

My house was built of hemlock boards 7-8ths inch thick, and 4x4 inch hemlock joists. The size was 10x14 feet, about six feet high on the south side and eleven feet on the north, with a shed roof, double thickness. The frame was put up without mortices, being halved together at the corners and the studs nailed in, the whole covered with the boards placed edge to edge and but one thickness, and battened on the inside with lath, and then thoroughly white-washed on the inside. The interior was divided into two apartments—the first eight feet by ten, with all window sashes on the south side. In this room I had the nests, boxes of ashes, lime, and sand to wallow in, boxes of feed, etc. This room was made so tight that it was quite warm during the day, all winter. The second apartment was six by ten feet, separated from the other by a tight partition, furnished with a small window the south side, with roosts, and with a tight floor, to save their manure. The first apartment had no floor. The entrance was by a door on the east end.

So much for the house. The expense was less than fifteen dollars. The work was done by myself, (although no mechanic) and is not included in the above estimate, as I did the work when I should not have earned anything else.

After fitting up my house, I purchased twenty-two hens of the Poland or top-knot breed, but not full blooded. They commenced laying the last of November, and did not miss a single day during the winter.

I kept an account of all the eggs laid during the year, and the cost of all their feed, which was an easy matter as I bought all they consumed. The account for the year is as follows:

By 204 dozen eggs (2448) at 20 cents.....	\$40 80
By 11 chickens at 22 cents.....	2 42
Total.....	\$43 22
To 15 bushels and 3 pecks of corn.....	\$15 75
To 64 eggs for setting.....	68
To Indian meal for chickens.....	80
Total.....	\$16 93

Balance in favor of poultry.....\$26 29

Holyoke, Mass.

H. H. M.

Diseases of Animals—Remedies, etc.

HORSES.

Influenza.—If marked by inflammatory action, blood must be abstracted, and that quickly by making the orifice large. Close it as soon as the pulse begins to falter. If no febrile action is apparent, small doses of aloes may be given, combined with the usual fever medicine. It is not prudent to continue the aloes beyond a third drachm. Great attention must be paid to diet. No grain is to be allowed, but give mash of thin gruel. Water should be entirely refused, and a bucket of gruel kept suspended in the box. Green food may be offered, such as grass, clover, and above all, carrots. If matters look serious, it will be best to call in a surgeon.

Inflammation of the Bowels—Enteritis.—The first necessity in this case is bleeding. From six to eight quarts of blood should be abstracted as soon as possible. A strong solution of aloes, guarded by opium, should follow the bleeding. This should be quickly followed by backraking, and the injection of warm water in which Epsom salts have been dissolved. The horse should be encouraged to drink plentifully of thin gruel, and a draught of two drachms of aloes and a little opium be given every six hours.

Diarrhea.—The treatment should consist in an alteration of the food, giving such as is of a more wholesome and binding nature, and if medicine is then required, give the following in thick gruel: Ginger, powdered, one drachm; gentian, do., two drachms; opium, half a drachm; prepared chalk, one ounce. To be carefully combined together and repeated twice or thrice a day.

Dysentery.—The treatment should consist of a moderate bleeding, and the administration of mild diluents, such as linseed gruel or tea. Two drachms, of nitrate of potash and four drachms of super-tartrate of potash may be given with the gruel four times a day, and warm mash and carrots offered as food.

Fever.—Bleeding is in most cases necessary, after which gentle opening medicines may be used, followed by proper fever medicines. Digitalis, tartar emetic, and nitre may also be given. The horse is to be kept warmly clothed, but in a cool, and well ventilated stable.

Stomach Stagnation.—Give oily purgatives, assisted by draughts of warm water and purgative injections. Afterwards give carbonate of ammonia, two drachms; gentian, one drachm; spirits of nitrous ether, one ounce; twice a day.

Worms.—Take an ounce of dried tobacco powdered fine, a teaspoonful of salt, and a handful of unleached wood ashes; mix them well and give the horse a large table-spoonful of the mixture, in his oats or cut food, two or three times a week.

Colic.—Turpentine is one of the most powerful remedies, especially if combined with a small quantity of opium and in good warm ale. A solution of aloes may be advantageously added. The horse should be walked about, and the belly rubbed with a brush or cloth. If relief is not obtained in half an hour it will be prudent to bleed. Clysters of warm water, or containing a solution of aloes, may be injected. Give the animal bran mash and lukewarm water for two or three days afterwards, and keep him well stabled.

Mange.—A liniment made of four ounces of

sulphur vivum, two drachms of white hellebore, four ounces of oil of tar, one pound of linseed oil well mixed together, and rubbed in with plenty of friction every day for several days, with an occasional washing with soap and water, will in most cases be effective.

Catarrh.—In nineteen cases out of twenty, recovery will take place without any medicine, if the horse is kept free from the cordials grooms are so fond of administering, and allowed warm stabling and mashes, and no heating food. A fever ball may be given mixed with a little aloes and antimony.

Bone Spavin.—Take six ounces oil of origanum, two ounces camphor, two ounces mercurial ointment; mix them well together and rub the spavin two or three times a day, keeping the legs dry and free from dirt.

CATTLE.

Milk Fever.—From half a pound to a pound of Epsom salts, dissolved in a quart of boiling water, and add one-quarter of an ounce each of powdered red pepper, caraway seed, ginger, and a gill of molasses, and give the whole lukewarm at once. If this does not act on the bowels, another dose is to be given, with the quantity of pepper, caraway, and ginger doubled. After the operation of this medicine, sedatives may be given if necessary. Bleeding is sometimes, but rarely, necessary in the first stages of this disease.

Red Water.—Take a pound of Epsom salts, half an ounce of ginger, and half an ounce of carbonate of ammonia. Pour a quart of boiling water on the salts and ginger, stir thoroughly, and when cold add the ammonia. If this fails to act on the bowels, repeat a quarter part of it every six or eight hours till it succeeds. Give a nutritious diet afterward.

Simple Fever.—In slight attacks a cathartic of salts, sulphur and ginger is sufficient; but if neglected it will turn into pleurisy, and then a veterinary surgeon should be called in to give the best chance of saving the animal.

Hoven.—In the early stages, the gas in the animal's stomach may be neutralized by giving two ounces of ammonia in a quart of warm water every quarter of an hour, or by the use of chloride of lime, in the same way.

Scours or Diarrhea.—Mild purgatives, followed by astringents, are advisable in this disease.

Dysentery, Scouring Rot.—This is a dangerous and troublesome malady, and difficult to cure. Dry, warm stabling, with careful nursing, will do much. Dry, sweet food, should be given.—Give a purgative, and afterward make a mixture of two ounces prepared chalk, one ounce powdered oak bark, two drachms pulverized catechu, one drachm pulverized opium, and four drachms powdered ginger, to which add a little starch, and give it in a quart of warm gruel.

Typhoid Fever.—Copious drinks of oat meal gruel, with tincture of red pepper, a diet of bran, warmth to the body, and pure air, are great essentials in the treatment of this disease; followed by light purgative medicines, and afterward by light stimulants, to move the digestive organs into healthful action.

Hoose.—Half a pint of lime water every morning, and a tablespoonful of salt each evening, for four or five days, will alleviate this disease, which most generally affects calves and young

cattle. An ounce of oil of turpentine in four ounces of linseed oil, repeated once a week, is often effective.

Inflammation of the Lungs.—Warm water and mashes or gruel may be given, and the animal kept in a dry, warm place. If the body is cold, give two ounces sweet spirits of nitre, four ounces liquor acetate ammonia, in a pint of water, two or three times a day.

Colic.—A carminative mixture, composed of half a teaspoonful each of powdered anise seed and cinnamon, given in a quart of spear-mint tea, and repeated if necessary, is the best method of treating this disease. A couple of quarts of thin gruel made from slippery elm bark, is also good. Brisk friction of the belly, and warm housing, should also be used.

Mange.—Rub the affected spots once a day with an ointment made of sulphur, one pound; mercurial ointment, 2 ounces; turpentine, $\frac{1}{2}$ lb.; lard, one and one-fourth pounds. Melt the turpentine and lard together, and stir in the sulphur as the mixture cools; then rub down the mercurial ointment on some hard surface with the other ingredients.

Caked Bag and Sore Teats may be removed by washing the bag and teats several times a day in clean soft water, after rubbing them with goose oil, or an ointment made by simmering the root of bittersweet in lard.

SHEEP.

Diarrhea.—The following will be found suitable: Pulverized catechu, four drachms; prepared chalk, one ounce; pulverized ginger, two drachms; pulverized opium, half a drachm. To be mixed in half a pint of peppermint water. Two or three tablespoonfuls given twice a day.

Dysentery.—Give linseed gruel several times a day; also administer a dose of two ounces of linseed oil, two grains of opium, repeating the opium the following day, with the addition of a scruple of ginger, and two scruples of powdered gentian.

Foot Rot.—The foot must be carefully examined and every loose portion or horn cut away with a sharp knife. Then wash it with a solution of chloride of lime, and apply butter of antimony, by means of a stick with a piece of tow tied to one end, to every denuded part of the hoof. It is then expedient to wrap the foot in a piece of clean rag or tow, tied fast, and turn the animal into a dry yard or pasture, taking care to dress the foot again every day. A solution of blue vitriol applied in the same way, is also very much used; so also is hot tar.

Catarrh.—Sometimes this assumes an epizootic form, in which case it is difficult to arrest its progress. Bi-chloride of mercury, at the rate of one-eighth of a grain a day, dissolved in water, with the use of fifteen grains of a decoction of rhubarb, and the ordinary carminative and stomachic adjuvants of ginger and gentian, have proved the most useful of any treatment yet tried.

Inflammation of the Brain.—Abstract from half to one pound of blood from the neck veins, and give a purgative, such as two ounces of magnesia, afterward.

Giddiness—caused by hyatids on the brain. If a soft spot can be found on the skull, the hyatid can be destroyed by penetrating it with an awl;

but in most cases it is better to make mutton of the animal at once.

Hoven.—A teaspoonful of salt may be dissolved and poured down the throat; or what is better still, give a drachm of chloride of lime, dissolved in water. Sulphuric ether is also good.

SWINE.

Mange.—Wash the hog with warm water and soap. Withhold every kind of heating food. Give two ounces of Epsom salts in a warm bran mash. Give in every meal afterward for a few days a tablespoonful of flour of sulphur and as much nitre as will cover a sixpence.

Colic.—A dose of from one to eight drachms of opium and double that quantity of spirit of nitrous ether, (according to the size of the animal), in a few ounces of warm water, is the best remedy for this disease. In extreme cases bleeding may be resorted to.

Measles.—This will yield to cooling treatment, such as Epsom salts and nitre, with attention to feeding, giving warm drinks, with say thirty grains of sulphur and ten of nitre, three times a day.

Quincy.—Prompt bleeding and purging should be adopted, followed by cooling medicines, and the swellings in the throat may be punctured with advantage, and setons inserted.

Skin Diseases.—A cooling lotion made of four drachms muriate of ammonia, one ounce of acetic acid, and one pint of water, is an excellent topical application.

Leprosy and Murrain.—The best treatment is cleanliness, coolness, bleeding, purging, and limitation of food. A few cloves of garlic may be given with good effect.

Lethargy.—Bled from behind the ears and administer an emetic, and afterward give a few doses of sulphur and nitre.—*Harris' Rural Annual.*

An Old Farmer's Note Book—Why Pork Shrinks in the Pot.

In every farmer's family this is a matter of frequent comment, and in every neighborhood there is a wide difference of opinion as to the cause. I have noticed in this as in some other matters that men like to mystify themselves by seeking for super-natural causes, when by a little reflection, natural causes would be found to answer the purpose just as well.

My first wife used to say that it was sheer nonsense about there being any difference in pork as to shrinking; but that *she* could boil any pork without its shrinking; that all the shrinking *she* was afraid of was after it came upon the table. As a general thing she was pretty near right, but she missed it in this case. I have heard others say that the trouble was in the cooking and not in the pork, but I do not believe it.

That some pork shrinks in the pot, while other pork does not is a fact within the experience of every farmer and farmer's wife. As to the cause, no two persons are of the same mind. I will mention a few of the notions on this point which I have heard laid down as law. They say:—

1. That the pork will shrink if you kill the hogs in the wane of the moon.

2. That it makes no difference about the moon

at killing time, but it will shrink if the pigs were not littered on the increase of the moon.

3. That during the increase of the moon, hogs will eat one-third more than in the decrease, and that they should be killed just before the moon falls, as in consequence of the hogs eating more, the flesh is the firmer and will not shrink.

4. That it is no matter about the moon, but that the wind must blow from the south when the hogs are killed, or the pork will shrink.

5. Some of the Germans of Pennsylvania say that if you bury the harslet under an ash tree for the man in the moon, he will see that the pork does not shrink.

I could fill pages with stuff, but I will only add the opinion of a member of Parliament. Sir John Tyrrell, in a speech attacking American products, said of pork, "That all American pork would shrink one-half in cooking, and therefore it was only worth one-half as much as English pork." The reason of this as gravely stated by him was "that hogs in America were fattened on sheep. (Laughter.) He did not state this upon light authority. It was a fact that in America sheep are so worthless that only the skin is preserved, the carcasses are eaten by hogs. (Continued laughter.) This being the case, the poor man who buys American pork need not wonder at its great waste in boiling." This speech was made in 1843 when the low price of beef and pork in this country led to the exportation of such large quantities to England that British Agriculturists were alarmed.

I do not expect my own notions on this disputed point are likely to settle the question much better than Sir John Tyrrell's, but I record them for what they are worth. If you keep your store hogs low in flesh in the summer and autumn and then suddenly begin to fat them, they will gain fast, appear to be doing well, and look well when dressed, but you will be disappointed in their weight, and the ordeal of the pot will prove the flesh to be *puffy*; the little cells of which the meat seems to be composed are filled with gelatinous matter which has not had time to become hard and firm, and it will be partly soluble in boiling water and your pork will shrink.

This may be tested by boiling a piece of shrinking pork in clear water. What the pork loses you will find, in part, in the water. You will not find all that it has apparently lost, for it probably will not lose in weight as much as it does in bulk.

If hogs have been fed mostly on animal food, as at slaughter-houses, the pork will shrink.

If you kill your sows when in heat, the pork will shrink.

I have heard of a paddy who fed his hog to repletion one day and let him squeal without any food the next, so that he might have pork with a streak of fat and a streak of lean. This kind of pork will shrink.

My neighbors frequently borrow or buy a little pork from my cellar and they say it never shrinks. There is no necromancy about it. My way of managing hogs is this: In the first place I have a good breed. I never allow them to fall off in condition from the start they get with their mother's milk, and they never know stint nor stunt till the last day when I feed them with

a stick. Early in the autumn I take them up in high order and begin to fat them, gradually increasing their rations of grain till they are *fat and ready to kill*. Then I feed them one week more. During that week, if my pork has not been already engaged at my own door, I make a market for it. Then secure plenty of help of the right kind, and see that everything is all right in the house and out of the house, so that the hog can be butchered and dressed without any vexatious delays. Take an early start and stick the hogs. Be sure that the pork is thoroughly cooled upon cutting up, but cut up and

salt down soon after it is cold. It is better not to allow it to freeze. Use plenty of the best salt and fill up the barrels with brine, and not with water as some do. (An old *beef* cask will ruin your pork.)

Do this and you will have pork, white, firm, compact and almost as solid as marble, which when well cooked will be tender, juicy, melting, and more delicate than the meat of any other critter that THE GIVER has provided for us, and you may defy the moon and all the men and women in it to make it shrink.—*Connecticut Homestead.*



The above represents Mr. Peyton Johnston's Hampshire Boar, of which we find the following account in a Richmond exchange:

LARGE FATTED HOG.—We have seen a specimen of the improved Hampshire, raised from the imported stock of Mr. Peyton Johnston, which was put up to fatten last August, and, in 144 days, has increased about 200 pounds—weighing when alive 425 pounds, and when dressed 350 pounds.

This hog, we understand, is the celebrated Hampshire "Frank," which has been exhibited at the Agricultural Fairs, where he invariably received premiums and the admiration of competent judges.

We have seen the porcine race in two hemispheres, and must acknowledge that "Paddy's Retreat" is hard to beat, where stock worthy of a visit is to be seen. Dr. Milland, the photographer, has taken a picture of his hogship "Frank," which may be seen at 115 Main street.

The imported stock of Hampshire hogs are in their prime at about two years old. This breed is composed of the old Hampshire and the Essex, the Chinese and the Neapolitan, with an admixture of the improved Berkshire, producing a medium-sized, rather short-snout animal, perfectly symmetrical, easily fattened, and maturing, according to care, from one to two years. This pure stock, crossed on the native, will in a few years well repay the outlay of cost to the purchaser, as the reports from those who have had them all concur in admiration and the satisfaction the animals have afforded.

Singed Bacon.

The *Chicago Tribune* says Mr. Thomas Nash, of that city, has adopted the Hampshire plan of singeing his hogs after slaughtering, instead of the usual mode of scalding them. After killing, the carcasses are covered with straw, which is then burned upon them. They are then turned, and the process repeated on the other side, leaving the carcasses quite blackened. This dark coat

is scaled off with a scraper, and the hog is found to be perfectly cleaned of bristles. It is then dressed, cut in half, head and legs cut off, blade and backbone cut out, the whole neatly trimmed with a knife, and the sides then laid in tiers, skin side downward, the meat surface plentifully strewn with salt to pickle it, and in about two weeks the process is completed, and the *singed* bacon ready for shipment in boxes to London, where it is preferred to any other.—*Genesee Farmer.*

SUNDAY READING.

The court of *Mercy* is the only court where man dares to appear or can abide a trial. Man expects mercy both from God and from man, in this life, and in the next; in death, and after death; and, therefore, there is great reason to conclude, that he, of all creatures should be *merciful*, and that cruelty was as little made for man as pride.

What is a pure heart? it is a heart which, in every respect, rests entirely content with God alone; which finds no relish, nor takes any delight, except in Him.

It is asked, where, in what part of the body does the soul reside? Plato fixes it in the brain; Christ shews it to be in the heart. Blessed are the pure in heart.

What is Heaven by way of *object*, but God Himself? What is Heaven in the *subject*, but our inward health and strength, our rectitude and sanctity, our conformity to God, our proportionableness to Him, after the measure of created beings—Heaven is first a *temper*, then a *place*.

In some sense God is seen by all mankind, and by the whole rational creation. God is seen by all men in His works, in the fabric and motions of the material world. The very devils see Him in His judgments: Wise men see Him in His Providential government of human actions, in the rise and fall of human States and Empires. The pious believer sees Him with the eye of faith, in the miraculous support and preservation of His church. He sees Him with the intellectual eye, discerning, in part at least, His glorious perfections; and they, and only they, who thus see Him now, shall at last literally see the majesty of the Godhead in the person of their glorified Lord.

It is the cause for which we suffer, and not the mere act of suffering, which makes us martyrs.

Enemies are, perhaps, more immediate instruments of good to us than our friends.

The gospel of Christ is (very particularly) to be considered as a trust, deposited with us in behalf of others, in behalf of mankind, as well as for our own instruction.

The first Evangelical duty that God requires for obtaining mercy and pardon, is *repentance*. Before our faith can be persuaded of pardon, nay, before it can lay hold of pardon, nay, before God will reach out His pardon, he expects repentance. Before thou stretch out thy hand of faith, thou must humble thyself upon the *knee of repentance*. Faith, that's the cordial to revive and comfort thee—but repentance, that's the purgative that must first work, and fit thee to receive this cordial. Still the scriptures give the precedence to repentance. 'Tis the primitive original grace, even before faith itself, as it serves to justify.

Repentance is a true returning unto God, whereby men, forsaking utterly their idolatry and wickedness, do, with a lively faith, embrace, love, and worship the true living God only, and give themselves to all manner of good works, which by God's word, they know to be acceptable unto Him. Now there be four parts of repentance,

(contrition, confession, faith, amendment of life,) which, being set together, may be likened to a short ladder, whereby we may climb from the bottomless pit of perdition up into the castle or tower of eternal salvation.

Belief of the world and judgment to come, faith in the promises and sufferings of Christ for mankind, fear of His majesty, love of His mercy, grief for sin, hope for pardon, suit for grace—these we know to be elements of true contrition.

When Satan first comes to tempt, he is modest and asks but a little. He digs about, and loosens the roots of faith, and then the tree falls the easier on the next gust of temptation.

When one carnal delight is mortified, another springs to life. Tread upon that which is down; wrestle with your enemy that is: This is our great business—this is our warfare.

We ever carry our greatest enemy within us. There was never a sounder truth than *Nemo laeditur, nisi a seipso*; no one is harmed but by himself. Had we the true reins of our passions and affections, outward occasions might exercise our virtues, but not injure them. A man's own heart is as arch a traitor as any he shall meet withal. We trust in it too much, and know it too little: and while we think it sure-footed, it slides and doth deceive us.

Our Saviour lighted a candle when He irradiated and inflamed the obscure lantern of human nature with His Divinity, and placed this candle of His Divine nature on the candlestick of His church, and this candle, the gospel, could not be put under a bushel, that is, confined to the Jewish commonwealth, but was to give light to the whole world.

It is not sufficient to carry religion in our hearts, as fire is carried in flint-stones, but we are outwardly, visibly, apparently to serve and honour the living God.

It has been pretended by some teachers, that works were required only under the law, and that grace comes instead under the gospel; but the true account of the matter is this, that the law enjoined works, and the grace of the gospel fulfils them: the law commanded but gave no power; the gospel bestows the power—thus the gospel is the counterpart of the law.

By the law is meant the eternal, unchangeable law of God, which is the revelation of His will, the standard of perfection, and the mould and fashion to which all creatures must conform, as they would be happy.

Small things cease to be small when their effects are mighty.

As David with a little stone slew Goliath, because his forehead was open, so can our enemy deal with us if he observe any faculty naked and neglected.

Do and teach. Our works speak more effectually than our words.

If our hands did never offer violence to our brethren, a bloody thought doth prove us murderers before God; if we had never opened our mouth to utter any scandalous, offensive or hurtful word.

AMERICAN FARMER—ADVERTISER.

Wholesale Produce Market.

Prepared for the American Farmer by ELLIOTT & HEWES, Produce and Commission Merchants, 69 Exchange Place.

BALTIMORE, February 24, 1860.

BUTTER.—Ohio, in bris. and kegs, 11 to 12½; Virginia and Pennsylvania, in kegs, 12 to 16; Glades 14 to 18; New York or Goshen 18 to 24; Roll 15 to 17.

BREXWAT.—36 cts.

CHEESE.—Eastern 11½, Western 10½.

DAIRY FRUIT.—Apples \$1.75, Unpeeled Peaches \$3; Peeled do. \$6.

EGGS.—16 cents.

FEATHERS.—45 to 50 cents for good to prime.

HONEY.—20 cents.

LARD.—Bris. 11, kegs 12, jars and other country packages, 12.

TALLOW.—11 cents.

WOOL.—Unwashed 24, tub washed 34, pulled 34.

Baltimore Markets, Feb. 24.

COTTON.—The market is rather dull, but prices have improved since our last issue. We now quote

Grades.	Upland.	Gulf.	Western.
Middling.....	11½al2	12½al2½	11½al2
Good Middling.	12½al2½	12½al3	12½al2½
Middling Fair.	11½al3	13½al3½	12½al3

FISH.—There is a good retail demand, but no cargo sales are being made. We quote to-day's prices as follows: Mackerel, \$9.50 to \$10 for No. 3; \$13.50 to \$14 for No. 2; \$15.50 to \$16 for No. 1. Alewives, \$3.50 to \$4. Herrings, \$2.50 to \$3.25 for Halifax, and \$4 to \$4.50 per bbl. for Labrador.

FLOUR.—We quote Howard street Super, \$5.37½; \$5.50; Extra, \$6. Ohio Super, \$5.37½; \$5.50; Extra, \$6. City Mills Super, \$5.37½; Extra, \$6.25. Family Flour, \$6.50a \$7.50 for the different brands; very choice brands, \$8.

EYE FLOUR AND CORN MEAL.—We quote Rye Flour at \$4.37½. Corn Meal at \$3.62½ per bbl.

BUCKWHEAT FLOUR, \$2.25 to \$3 per hundred pounds.

GRAIN.—Wheat.—Red, \$1.26 to \$1.35 for fair to prime.

White, \$1.40 to \$1.50, according to quality.

CORN.—The receipts continue large. We quote white at 70 to 75; yellow 75 to 75 cents.

OATS.—Maryland and Virginia, 41 to 43; Pennsylvania, 44 to 45 cents.

RYE.—Maryland and Virginia, 85 to 87; Pennsylvania, 90 cents.

POTATOES are selling, from the wharf, at 45 to 65 cents per bus. in small lots. The stock here is large and market dull.

PEAS AND BEANS.—Black-eyed Peas, \$2.75 to \$3 per two bus. bag. Beans, \$1.25 per bus. and \$3.25 per two bus. bag.

PROVISIONS.—Bacon.—Shoulders, at 8½, and Sides at 10½ cents, per lb.

BULK MEAT.—Shoulders 7½; Sides 9½ cents per lb.

PORK.—Mess, \$18 to \$18.50; Prime, \$14 to \$14.50; Rump, \$13.

SEEDS.—Clover seed, \$5.25 to \$5.50. Timothy, \$3 to \$3.25. Flax seed, \$1.35 to \$1.40 per bus.

TOBACCO.—The demand for Maryland is good. Sales to a moderate extent are being made. We quote frosted at \$2; ground leaf at \$2 to \$7; common at \$2.50 to \$3.50; middling \$4 to \$4.50; good middling \$5 to \$5.50; good leaf \$6 to \$6.50; and fine at \$7 to \$12. We quote common lugs at \$4.25 to \$4.75; good do. at \$5.25 to \$5.50; inferior leaf at \$5.75 to \$6.25; good do. at \$6.50 to \$7.50; fine at \$7.50 to \$9; choice at \$10 to \$12; and rich heavy Kentucky at \$7 to \$12.50. The inspections of the past week are 12 hhds. Maryland, and 45 hhds. Ohio, and 7 hhds. Kentucky.

SALT.—Turks Island, 16 to 18 cents per bushel; Liverpool Ground Alum, \$1.

GUANO AND OTHER FERTILIZERS.—Prices continue without change. We quote Peruvian at \$61 to \$62 per long ton, according to quantity—the latter being for a single ton and upwards. For less than a ton, at the rate of \$56 per ton of 2000 lbs.; California or Elide Guano, \$45 per short ton; Manipulated, \$47; Super-Phosphate, \$48; Mexican A.A., \$20 to \$22; Mexican A. \$16; White Mexican, finely ground, \$27; Sombbrero, \$32 per long ton, and Colombian \$40. Navassa Guano, finely ground, \$25 per ton. Ground Bones, \$25 to \$27 per 2000 lbs.

GINSENG is in demand, at 60 to 62 cents per lb.

HIDES.—Country slaughtered, 9 to 9½; dry do. 14 to 15 cents.

HOPS.—Old, 7 to 8; new, 14 to 15 cents per lb.

HAY AND STRAW.—Hay, \$15 to \$17 for baled, and \$13 to \$15 per ton for loose. Straw, \$15 to \$16 for rye, and \$10 to \$12 per ton for wheat and oat.

CATTLE MARKET, Feb. 23.—The offerings of Cattle at the scales to-day were considerably less than those of last week; but notwithstanding this, prices gave way fully ½ to ¾ cts. per lb. The offerings did not exceed 675 head, of which 150 were driven to Philadelphia, 100 were left over unsold, and the balance (425 head) were sold to Baltimore butchers at prices ranging from \$3.25 to \$3 per 100 lbs.; but few, however, were sold at the outside price. The average to-day was about \$4, but the market closed dull.

HOGS were in much better supply, but prices were unchanged, and sales were made at \$8.25a\$8.75 to the butchers.

SHEEP.—There was a fair supply, and prices ruled steady. Sales were made at from \$4 to \$5.50 per 100 lbs.

NEW ADVERTISEMENTS.

Allen & Needles—Guano.

Bryan & Bro.—Ag. Mud Lifter.

Blew, Joel—California Potatoes.

Brackenridge—Rosebud Nurseries.

Borum & McLean—Farmers' Head Quarters, Norfolk.

Cathers, Dr.—Cure for Cancer.

Curwen, Geo. F.—Devon Cattle, &c.

Dingee & Co., W. W.—Threshing Machines.

Darlington & Co., J. L.—Morris Nurseries.

Dulany, R. H.—Stallion, Scrivington.

Ellwanger & Barry—Mount Hope Nurseries.

Greenway & Co., J. M.—Rhodes' Super Phosphate.

Hooker & Co., H. E.—Commercial Nurseries.

House, Saml. A.—Flour, Grain and General Produce.

Jackson & Co., Isaac—Harmony Grove Nurseries.

Johnston, Peyton—Hogs.

Kellogg, Rodney—Wheatfield Seed Sower.

Kettiewell & Ober—Manipulated Guano.

Kimberly Brothers—Cereal Fertilizer.

Lawson & Son, Peter—Queen's Seedmen.

Linton, J. D.—Thrasher and power.

Meenan, Thomas—Germantown Nurseries.

Mott, A. C.—Buckeye Reaper and Mower.

Maryland Agricultural College—Wants a Gardener.

Montgomery & Bro., J.—Wheat Fan.

Maryland Agricultural Society—Meeting of Ex. Com's.

Malcom & Co., P.—Guano.

McHenry, J. Howard—Stallion Claude Melnotte.

Osborne & Co., D. M.—Kirby Reaper and Mower.

Pentland, James—Florist.

Rogers, C. B.—Grass Seeds.

Ray & Co., B. F.—National Harvester.

Robey, H. R.—Apple Trees.

Saul, John—Nurseries.

Stewart, C. Morton—De Burg's Super Phosphate.

Spear & Forney—Boyer's Mill, &c.

Thorburn & Co., J. M.—Seeds, &c.

Tredwell & Fell—Share's Patent Coulter Harrow.

Tregoe, Wm.—Manufacturing Chemist.

Underhill, R. T.—Isabella and Catawba Grape Vines.

Whitman & Co., E.—Garden Seeds—Cranberry Plants.

Worthington & Lewis—Dover Cattle.

Worthington & Lewis—West River Farm.

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